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TIME

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EXPERTS TAKEPRAY!
THE HEALTH
BENEFITS
OF FAITHHOW TO
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FUNTHE
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HEALTHIEST
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4 | Conversation
6 | For the Record

The Brief

News from the U.S. and around the world

7 | War in Syria escalates

8 | European Parliament to review **daylight saving time**

12 | Ian Bremmer on the future of South African President **Jacob Zuma**

13 | Facebook confirms test of a **downvote** button

14 | Earthquake strikes **Taiwan**

The View

Ideas, opinion, innovations

17 | When men can't silence **women**

18 | A top U.S. naval commander in the Pacific on tracking **North Korea**

19 | How to respond to a **rude** person

21 | Jennie Willoughby, a former wife of White House staffer Rob Porter, speaks out

22 | Kehinde Wiley and Amy Sherald on painting **Barack** and **Michelle Obama's** portraits



Time Off

What to watch, read, see and do

95 | Natalie Portman stars in **Annihilation**

98 | **Black Panther** reviewed

100 | New political drama **The Looming Tower**

103 | A reading list for **Black History Month**

106 | My connection to the **Berlin Wall**

108 | 9 Questions for entrepreneur **Chris Hughes**

Japan's Kaori Sakamoto competing on Feb. 12 at the 2018 Winter Olympics in PyeongChang, South Korea

Photograph by Tatjana Zenkovich—EPA-EFE/REX/Shutterstock

The Features

The Voters Trump Forgot

Why the President's base is still with him

By Molly Ball **24**

The Business of Human Smuggling

It's boom times for those moving people illegally across borders

By Karl Vick and Lisette Poole **30**

Puerto Rico from Above

Harrowing images of the U.S. territory's slow recovery from Hurricane Maria

By Justin Worland, photographs by Ricardo Arduengo **38**

The 2018 Winter Olympics

As the politics recede, the athletes take center stage at PyeongChang

By Sean Gregory and Alice Park **84**

Jordan Peele on Culture, Race and Fear

A conversation with the Oscar-nominated director of *Get Out*

By Eddie S. Glaude Jr. **90**

The annual swim in the Vltava River in Prague on Dec. 26, 2016

THE LONGEVITY REPORT

Cutting-edge research from the frontiers of longevity

Long View

What it takes to live the good life after 90

By Jeffrey Kluger and Alexandra Sifferlin **46**

A Fragile Hope for Alzheimer's

A drug that may halt the disease is in trial testing

By Alice Park **54**

The Big Chill

Meet the people who swear by the healing powers of frigid plunges

Photographs by Radek Kalhouš **64**

You Asked

From "How do I make peace with dying?" to "Is an anti-aging pill on the horizon?"

By TIME staff **72**

Clues from the Animal Kingdom

What scientists are learning about the creatures with the longest life spans

By Jamie Ducharme **82**



GET OUT A PENCIL

For this week's cover on how to live a longer, fuller life, we created an actual puzzle: the first interactive cover in TIME's 94-year history. By solving it, you'll discover some of the many healthy-aging secrets that are tucked inside this double issue—from the unexpected benefits of religion, to a new treatment attempting to finally address one of the most painful aspects of aging, to the best reason yet to live in a noisy, crowded city. The maze was created by Post Typography, a creative design agency in Baltimore and New York. Good luck, and enjoy the journey.

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refresh your memory

*Learn about
this preliminary
research on
pomegranate
polyphenol
antioxidants
and memory
and cognition.*

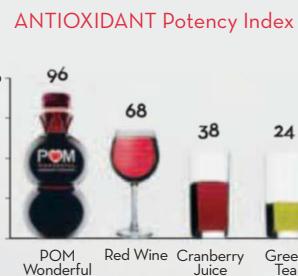
POLY-PHE-NOLS: If the word doesn't ring a bell, it soon will. Researchers are beginning to examine the potential impact of pomegranate polyphenol antioxidants on various areas, including memory and cognition. So polyphenols are definitely something you'll want to remember.

Polyphenols are an antioxidant known to help combat unstable molecules that can cause damage to your body over time—called *free radicals*.

DRINKING POM IS A NO-BRAINER. A preliminary 2013 study at UCLA conducted on a small group of older adults with age-related memory complaints may link pomegranate polyphenol antioxidants to increased verbal memory performance and increased functional brain activity in fMRI testing. The study involved drinking just 8oz of pomegranate juice daily for four weeks.

These are early scientific findings on cognitive health and the impact of pomegranate juice on the human brain has not yet been adequately studied. Clinical research is needed to help establish causation and further studies on larger populations are needed to confirm the long-term effect of pomegranate juice on memory and cognition.

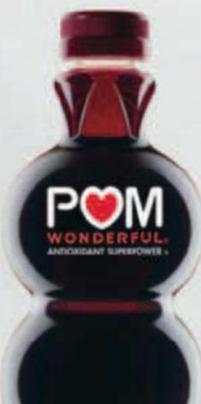
POM, THE ANTIOXIDANT SUPERPOWER. To maximize the polyphenol antioxidant levels, POM Wonderful 100% Pomegranate Juice contains the juice from four whole-pressed pomegranates in every 16oz bottle. The whole-pressed process extracts the polyphenols in the rind, pith and arils. An *in vitro* study at UCLA found that pomegranate juice has, on average, more antioxidant capacity than red wine, grape juice or green tea.



*Contains 4x the antioxidants,
on average, of green tea.*

For now, just remember that once everyone starts raving about polyphenols, you heard it here first.

Don't forget, POM is in the produce section of your store. And it's available through Amazon.





What you said about ...

BLACK PANTHER Jamil Smith's Feb. 19 cover story on the movie *Black Panther* as an exploration of black identity won cheers from celebrities such as filmmaker Ava DuVernay and *This Is Us* actor Susan Kelechi Watson, who tweeted that it was "Black History in the making." Facebook user Phillip Schulz expressed appreciation for the chance to discuss representation in a "more positive" way. "Some of what this article says is hard for me to swallow," wrote @ClairePiquette on Twitter, "but that's okay." However, Karen Raskin-Young of Flagstaff, Ariz., took issue with Smith's idea that white Americans "again have a President" in Donald Trump. "I AM white," she wrote, "and MY President was Barack Obama."

STATES OF VULNERABILITY Many readers were moved by Matt Black's photos of poverty in the U.S., featured in the Feb. 5 issue. Jane Oliver Williamson of Selma, N.C., urged TIME to make his series a recurring feature, and Buster Jones of Roanoke, Va., said they're reminiscent of Dorothea Lange's photos of victims of the Great Depression. Quoting Matthew in the New Testament, Elizabeth M. van Iersel of Washington, D.C., pointed out, "History will judge our leaders and us as a people harshly that we failed to care for 'these, the least of my brethren' in the midst of plenty." However, some felt that the images didn't capture the full breadth of American poverty, and might give the impression that it only affects people of color. As Vincenzo Fressola of Ashland, Ky., put it, "Poverty is everywhere and in every color."

ROSEMARIE OUELLETTE, Deckerville, Mich.

'I'm going to need this TIME cover in my classroom.'

BERNADETTE BACERO, teacher, Dearborn, Mich.

'Heart-breaking. I will save those images for always. Thank you for a precious eye-opener.'

ROSEMARIE OUELLETTE, Deckerville, Mich.



WATCH On TIME.com, see video captured by the drone that San Juan-based photographer Ricardo Arduengo—whose still images are featured on page 38—used to document Puerto Rico before and after Hurricane Maria struck the island. The footage shows gutted beach houses, blue tarps used as makeshift rooftops (above) and solar panels ripped to shreds. "If the water rises," Arduengo says, "[Puerto Ricans] risk their lives or cars to make it to appointments, work, daily errands." Watch at time.com/marias-shadow

BONUS TIME HEALTH

Subscribe to TIME's free health newsletter and get a **weekly email full of news and advice to keep you well.**

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TUNE IN Every Friday, TIME picks five songs you need to hear now. Recent roundups have featured artists including (below, from left) rapper Kendrick Lamar and Canadian singer The Weeknd, who collaborated on a new track, as well as Australian pop songwriter Betty Who. Find it at time.com/newsfeed



SETTING THE RECORD STRAIGHT ▶ In LightBox (Feb. 19), we misstated the final score of Super Bowl LII. It was 41-33, not 44-31.

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'HE WANTS JUSTICE ONLY WHEN IT'S IN HIS FAVOR.'

EMMA ARBUTHNOT, judge, upholding the U.K. arrest warrant for WikiLeaks founder Julian Assange, who has been living in the Ecuadorian embassy in London since 2012 to avoid prosecution for publishing classified U.S. documents

\$5 million

Amount that a Maine dairy company will pay its drivers after a judge ruled that the lack of **one Oxford comma** in a list of tasks legally exempt from overtime pay meant their work wasn't covered by the law



**8 hr.
7 min.**

Length of the address with which U.S. House minority leader Nancy Pelosi set a new record for **longest continuous speech** in the chamber, per the Office of the Historian

'They should get back to baby pictures.'

SUSAN WOJCICKI, YouTube CEO, reacting to Facebook's new video strategy, which could compete directly with YouTube

'If you want to talk, we'll talk.'

MIKE PENCE, U.S. Vice President, suggesting he's open to negotiating directly with North Korea, though he said the U.S. "maximum pressure campaign" would also continue

1,100

Estimated weight, in pounds, of an unexploded World War II-era German bomb discovered during construction work near the London City Airport; the airport reopened after the bomb was detonated in a controlled explosion on Feb. 14



Guacamole
Shark Tank investors put \$400,000 into the expansion of an avocado-themed restaurant



Hummus
A drought in India has led to a chickpea shortage and a price hike in Britain

'There's pretty clear evidence that the Russians meddled.'

GEORGE W. BUSH, 43rd U.S. President, discussing the 2016 presidential election in a speech at an economics summit in Abu Dhabi

'I HIGHLY RECOMMEND IT. IF YOU EVER HAVE THE OPTION, COME TO THE OLYMPICS. IT'S, LIKE, A FUN TIME.'

ADAM RIPPON, Team USA figure skater, in an interview with NBC's Andrea Joyce following his performance in the team skate event

The Brief

'THE PARTY OF NELSON MANDELA, THE ANC, HAS WON EVERY NATIONWIDE ELECTION SINCE THE END OF APARTHEID.' —PAGE 12



The Syrian regime has been attacking rebel-held areas like the town of Douma

WORLD

The war in Syria has become a global battlefield

By **Rebecca Collard/Beirut**

AS 2018 BEGAN, IT LOOKED LIKE THE war in Syria might be drawing toward an ending that few in the international community wanted. Yes, ISIS was on the way to defeat as a conventional fighting force—but the regime of Syrian President Bashar Assad, backed by Russia and Iran, controlled more than half of the country.

Barely seven weeks later, an end to the conflict is nowhere in sight. Instead, the war in Syria is growing like a tumor—worsening in some areas and infecting surrounding states. What began as a civil uprising seven years ago now looks more like an international conflict where patron states are replacing their proxies.

Since Feb. 3, the aircraft of four different countries have been downed over Syria. A Russian jet was hit by

Syrian opposition fighters. Turkey says Kurdish fighters shot down one of its helicopters. An Israeli F-16 was downed by the Syrian regime after the jet carried out raids in Syria. And Israel says it shot down an Iranian drone entering Israeli space from Syria. On top of this, U.S. forces clashed with Russian mercenary forces who had attacked Kurdish forces backed by the U.S.

This dizzying array of overlapping and competing conflicts and alliances has become unmoored from the war that began in 2011. "Most of the conflicts that you see now have nothing to do with Syria per se," says Joost Hiltermann, director of the Middle East and North Africa program at the International Crisis Group. "They just happen to be fought there."

With 400,000 people dead, the conflict in Syria is no longer just about the future of Assad, the Syrian people or even ISIS, which has now lost most of its territory. Instead, it's a series of battles for geopolitical dominance.

The key player is Iran, which has extended its influence and reach inside Syria. Analysts say it now effectively holds the levers of power. "In the beginning, Iran entered Syria to support the regime of Bashar Assad, but Assad has ended up becoming a client of Iran," says Lina Khatib, head of the Middle East and North Africa Programme at Chatham House. "The Syrian regime has become almost hostage to Iran's interests."

That is too much for Israel, which sees a creeping Iranian military presence on its border. It launched a series of cross-border assaults in Syria on Feb. 10 in an overt show of force. Israel has carried out occasional strikes on Syrian territory since 2011, but both sides have shied away from raising the stakes. This time, things played out differently. Syria's anti-aircraft system hit an Israeli F-16 as it returned from a raid, sending a message: Israel will no longer have free rein of Syrian airspace.

Others in Syria are pursuing their own agendas. Turkey is battling the Kurdish YPG militia, which it sees as an existential threat. President Recep Tayyip Erdogan, who once called for Assad's ouster, now seems resigned to his staying. "[Turkey] has only one priority left in Syria, to fight the YPG," says Soner Cagaptay, director of the Turkish Research Program at the Washington Institute.

That presents an issue for the U.S., which helped train and arm the YPG to fight ISIS, an operation that it says is their sole mission inside Syria. Yet the Pentagon says it will keep troops on the ground despite ISIS's being pushed to a sliver of land along the Iraqi border. The prospect of direct clashes between the U.S. and Turkey—two NATO allies—now looks worryingly real.

Amid all this, Assad and his allies are attempting to obliterate the rebel holdouts of eastern Ghouta and Idlib. The U.N. said on Feb. 6 that Syria is facing "some of the worst fighting of the entire conflict," with reports of hundreds of civilian deaths. Its proposals for de-escalation zones have gone nowhere.

U.S. Secretary of State Rex Tillerson will be in the region until Feb. 16 to discuss issues including the conflict in Syria, but the U.S. is not the country best positioned to pull Syria back from its various fronts. That would be Russia, the sole party that has open communications with every player involved. The prospect of losing its foothold in the Middle East—and the reality of Russian citizens' colliding with U.S.-backed forces on the battlefield—may prompt Vladimir Putin to try to rein in the situation. But at this point, it may be beyond even his means to draw out the disease. □

TICKER

Russian plane crashes

A Russian airliner carrying 71 people crashed 25 miles from Moscow's Domodedovo airport, killing all on board. Snow had been falling at the time of the crash, and questions have been raised over whether the plane had been thoroughly de-iced.

Yosemite's famous 'firefall' runs dry

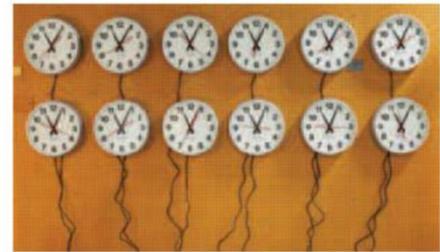
The "firefall" that appears when a waterfall at El Capitan in Yosemite National Park glows orange at sunset each February typically attracts thousands of spectators, but it likely won't occur this year. Park officials said the waterfall had run dry following California's drought.

Oxfam deputy chief resigns

Oxfam's deputy chief, Penny Lawrence, has resigned as the British charity faces a scandal over its response to sexual-misconduct allegations involving workers who were stationed in Haiti following the 2010 earthquake.

Peter Rabbit film causes controversy

The producers of the new Peter Rabbit movie have apologized over a scene that seems to make light of food allergies. In the film, a character suffering from a blackberry allergy is assailed by bunnies with berries, which prompted a social-media backlash.



WORLD

Time's up for daylight saving?

The European Parliament called for an investigation into daylight saving time on health grounds on Feb. 8, following other legislatures scrutinizing the practice of changing clocks every year. Here's more. —Tara John

THE EUROPEAN CASE

Critics of moving clocks an hour forward every summer say it disrupts human biorhythms. Supporters say the practice has benefits, like preventing traffic accidents, and a 2014 study found that the overwhelming majority of E.U. member states were happy with it.

THE AMERICAN CASE

In the U.S., states that wish to end daylight saving time must petition Congress, as Arizona did in 1968. But some states want DST to last all year; California and Florida are either considering or pushing bills that would move the clocks an hour forward permanently.

THE RUSSIAN CASE

Russia switched to permanent winter time in 2014 after a failed experiment to put clocks on year-round summer time in 2011. The policy apparently caused health issues in northern Russia, where mornings would remain darker for longer during the winter months.

DIGITS

60,000

Number of troops mobilized in China to plant trees; they were reportedly withdrawn from border areas where they'd been stationed in a bid to plant new forests in an area roughly the size of Ireland by the end of 2018





TOP DOGS The winning Treeing Walker Coonhounds are photographed with their ribbons at the Westminster Kennel Club Dog Show in New York City on Feb. 12. More than 2,800 competitors of various breeds and sizes took part in the annual elite dog show, in which a fluffy bichon frise named Flynn was crowned Best in Show on Feb. 13. The Reserve Best in Show title went to Ty, a giant schnauzer. *Photograph by Drew Angerer—Getty Images*

ACTIVISM

A #MeToo moment for Muslim women

USING THE HASHTAG #MOSQUEMETOO, Muslim women have begun to speak up online about sexual abuse experienced while on the hajj, the annual Islamic pilgrimage to Mecca, and in other religious spaces like mosques. Here's more.

THE SPARK An unidentified Pakistani woman took to Facebook in February to write about the repeated sexual harassment she encountered while on the hajj in Mecca. A mandatory religious obligation for Muslims, the hajj is a five-day pilgrimage undertaken by about 2 million Muslims each year. The woman subsequently deleted her post, but it encouraged women across the world to share their own stories on social-media platforms.

THE HASHTAG As women's accounts of being poked, pinched, groped

and in other ways sexually violated on the hajj began to snowball, social-media users converged with the hashtag #MosqueMeToo. Egyptian-American feminist Mona Eltahawy set the hashtag in motion by sharing her own experience of sexual assault on the hajj at the age of 15. Her tweet was shared more than 2,000 times in 24 hours.

THE BACKLASH Eltahawy said on Twitter that when she first spoke out about being assaulted on the hajj, Muslim women told her to keep quiet or else she would "make Muslims look bad." Similarly, critics on social media have responded to #MosqueMeToo by suggesting the women are tools of Islamophobia or Western propaganda. Supporters say Muslim women cannot stay silent and continue to suppress the issue of assault in order to avoid negative characterizations of Muslims.

—LAIGNEE BARRON

◀ Eltahawy wrote about being sexually assaulted on the hajj pilgrimage at the age of 15



DATA

SENDING MONEY BACK HOME

An estimated \$574 billion was sent by immigrants to relatives in their home countries worldwide in 2016, according to a Pew study. Here's how much remittances from the U.S. brought in to a sample of countries:



Mexico
\$28.1 billion



China
\$15.4 billion



India
\$10.66 billion



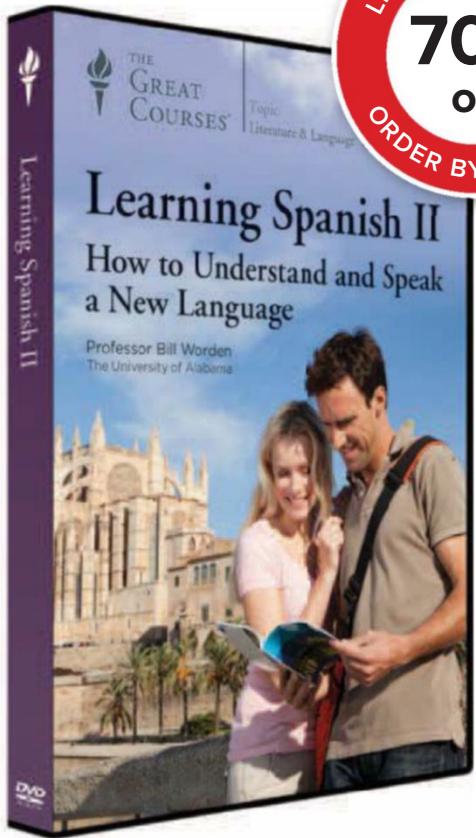
Germany
\$2.77 billion



U.K.
\$687 million



Syria
\$37 million



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6. Introduction to the Imperfect Tense
7. When to Use the Imperfect and the Preterite
8. How to Expand Your Spanish Vocabulary
9. Mastering the Imperfect and the Preterite
10. Mastering Direct and Double Object Pronouns
11. Expressing Possession in Spanish
12. Using *Se* to Talk about Unplanned Events
13. The Present Perfect Tense
14. Past Participles as Adjectives and Nouns
15. The Future Tense
16. Cognates and False Cognates
17. The Conditional Tense
18. Uses of the Infinitive
19. Relative Adverbs and Relative Pronouns
20. Mastering the Uses of *Estar* and *Ser*
21. Advanced Work with Adverbs and Adjectives
22. How to Use *Para* and *Por*
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How a domestic violence scandal exposed security risks in the White House

By Tessa Berenson

EVERY FEBRUARY, THE NATION'S TOP INTELLIGENCE officials appear in public on Capitol Hill to brief Americans on the biggest global threats facing the country. This year their testimony hit closer to home: two miles down Pennsylvania Avenue in the West Wing of the White House. Nearly 13 months into Donald Trump's presidency, dozens of his advisers reportedly still hold only temporary security clearances. At least two of the most senior aides have had access to the nation's highest secrets, including Rob Porter, who resigned on Feb. 7 amid allegations of domestic abuse, which he denies.

That, says Trump's own intelligence chief, is a problem. "The system is broken," declared Dan Coats, director of national intelligence, during congressional testimony on Feb. 13. For people working in the government on interim security clearances, Coats said, "access has to be limited in terms of the kind of information they can be in the position to receive." To make matters worse, Trump's handpicked FBI director, Chris Wray, testified at the same panel that the White House had known about Porter's problems for months.

The scandal threatened to topple Trump's chief of staff, John Kelly, who defended Porter's character. On Feb. 14, the GOP-led House Oversight Committee announced that it would open an investigation into the matter, and a senior National Economic Council official who couldn't obtain a permanent security clearance reportedly resigned. Most important, the episode revealed a striking carelessness by the Administration of a President who regularly called for the jailing of Democratic presidential candidate Hillary Clinton for her alleged mishandling of classified information while Secretary of State.

PORTER'S RESIGNATION put a long-overlooked issue in the spotlight. The allegations of abuse had delayed completion of his background check; after a year spent working in the White House as staff secretary—a vital role that involves screening every paper that reaches the President's desk—he was still operating with an interim security clearance. Among the dozens of other staffers without permanent clearance is Trump's son-in-law and senior adviser Jared Kushner, who reportedly has access to the top-secret Presidential Daily Brief.

The White House response to the Porter revelations only made matters worse. One official after another has failed to clarify the scope of the security clearance problem or how long key staffers had known about it. "There are a lot of officials coming in with the new Administration," principal deputy press secretary Raj Shah said on Feb. 8, "and a lot of individuals coming in have an interim clearance." But that, say GOP White House veterans, is misleading. Working in the White House for a year without permanent clearance would be "on the outer edge of what's normal," says Timothy



Porter was the
White House
staff secretary
for a year with an
interim security
clearance

Flanigan, White House deputy counsel under President George W. Bush. Wray testified that the FBI had been in contact with the White House about Porter's situation last March, July and November, then again in January and February, and that the agency had completed its work on Porter last month.

If there are others working at the highest levels of government without a final okay from the FBI and the White House personnel security office, that could put classified information at risk. One of Porter's ex-wives, for example, says she told the FBI he could be subject to blackmail because of his history of abuse. Senior staffers from previous Administrations say the Porter mess is indicative of a President whose approach to running government has been to throw out the rule book. "There is a different level of tolerance of risk by the Trump White House in terms of the people that the President wishes to employ," says Laura Terrell, an attorney who vetted security-clearance applications in George W. Bush's Administration. "That's the bottom line." —With reporting by ALANA ABRAMSON

**TICKER****Charges suggested for Netanyahu**

Israeli police have recommended that Prime Minister Benjamin Netanyahu be charged with “bribery, fraud and breach of trust” in two cases, one involving the receipt of gifts and the other an alleged mutual agreement with the publisher of Israeli daily *Yediot Achronot*.

School shooting in Florida

A gunman opened fire on Feb. 14 at Marjory Stoneman Douglas High School in Parkland, Fla., causing multiple fatalities, according to local officials. By late in the day, a suspect was in custody. Already in 2018, there have been more than a dozen school shootings in the U.S.

Vanessa Trump taken to hospital

Vanessa Trump was brought to a New York City hospital as a precaution after she opened an envelope addressed to her husband Donald Trump Jr. that contained a mysterious white powder. Early tests suggested the powder was not toxic.

Men will live as long as women

Men will live as long as women by 2032, per a study conducted by Cass Business School in London. Both are predicted to have an average life expectancy of 87.5 years at that point.

THE RISK REPORT**South Africa is ready to turn the page on an era of misrule****By Ian Bremmer**

IT'S THE BEGINNING OF THE END IN SOUTH Africa. Or the end of the beginning. Either way, scandal-plagued President Jacob Zuma is on his way out after eight years in power. After he resigned on Feb. 14 amid attempts by the ruling African National Congress (ANC) party to dislodge him, one thing is clear: South Africa is ready to turn the page. And given how abysmally run the country has been over much of the past decade, that's unqualified good news.

Compared with other countries whose economies are fueled by entrenched patronage networks, South Africa is much more pluralistic. Information about corruption at the top political levels is readily available, so few South Africans will be unaware that Zuma still faces 783 corruption, fraud, racketeering and money-laundering charges relating to a pre-presidency arms deal. In that respect, South Africa is much like Brazil, which is undergoing its own political convulsions. And like Brazil, South Africa will emerge all the stronger for it. Strong rule of law and a robust media environment can cause short-term political chaos but often prove steady in the long run.

The one leading the charge against Zuma is fellow party member Cyril Ramaphosa, who was elected as Zuma's replacement as president of the ANC in December. To do so, he had to defeat Zuma's ex-wife Nkosazana

Dlamini-Zuma. Once elected, Ramaphosa worked quickly, strategically sidelining Zuma from major decisions like whom to appoint to the new board of state-owned power utility Eskom. Moves like this telegraphed to Zuma's remaining allies in the party that if they wanted to keep their standing in the party (and their plum positions in government), they should start rethinking their allegiances.

The party of Nelson Mandela, the ANC has won every nationwide election since the end

of apartheid, a feat that makes Ramaphosa the heir apparent to Zuma, and also likely to lead the country after the 2019 election. This gives him a year to clean up Zuma's messes before he and the ANC have to run in elections again.

But make no mistake—
Ramaphosa is

no perfect politician, and his ascent to the presidency won't suddenly cure South Africa's long-standing woes. He is, however, a committed reformer, devoted to reducing the country's systemic corruption and getting its sputtering economy back on track. We've already seen big spikes on rand valuation and market optimism as a change in South Africa's political guard becomes more likely. That's entirely appropriate.

For Ramaphosa, his biggest appeal is that he's not Zuma. For markets and investors, that's enough. □

DIPLOMACY**Where the streets have new names**

A member of the Russian parliament has proposed that the street on which the U.S. embassy in Moscow sits be renamed “North American Dead End.” It’s not the only example of “street-name diplomacy” rankling governments around the world. —Dan Stewart

**U.S.**

The Russian proposal was a direct response to Washington authorities, who last year voted to rename a strip of Wisconsin Avenue so that the Russian embassy is now at 1 Boris Nemtsov Plaza—a tribute to a fervent critic of President Vladimir Putin's who was shot dead in Moscow in 2015.

TURKEY

City authorities in Ankara have proposed changing the name of the street where the U.S. embassy sits to “Olive Branch.” Although it sounds like a peaceful gesture, that's the name of a military operation against Kurdish militia in Syria who are backed by the U.S.

IRAN

In 2016, Tehran officials moved to rename the Saudi Arabian embassy's location Sheikh al-Nimr Street, after an executed Shi'ite cleric. This wasn't a first: in 1981, the U.K. embassy built a new rear door after the street at its front was renamed for an IRA prisoner who died on hunger strike.

Milestones

DIED

Leading Pakistani human-rights activist and lawyer **Asma Jahangir**, who chaired her country's Human Rights Commission, at 66.

► Baseball player **Wally Moon**, the outfielder whose "moon shot" home runs helped the Dodgers win the 1959 World Series, at 87.

► Postwar American crooner **Vic Damone**, who sang the title track for *An Affair to Remember* (1957) starring Cary Grant, at 89.

SUED

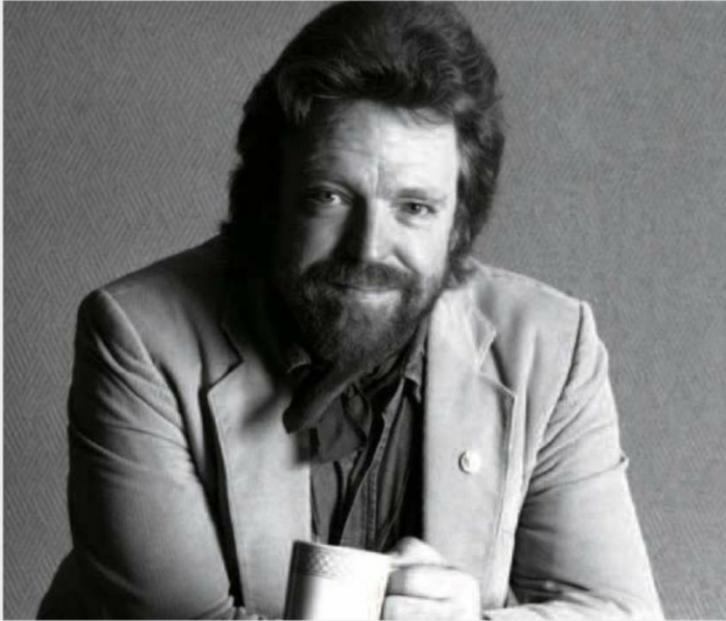
Harvey Weinstein and his company, by the state of New York, over allegations of not protecting workers from "pervasive sexual harassment, intimidation and discrimination."

ANNOUNCED

The introduction of long-awaited **redhead emoji**, by the Unicode Consortium. Its new batch of 157 images, which also includes curly-haired characters, will be released in June.

AWARDED

\$6.7 million, by a federal judge, to 21 graffiti artists whose works at the 5Pointz complex in Long Island City, N.Y., were painted over without warning in 2013.



Barlow, pictured at the PC Forum convention in Tucson, Ariz., in 1991

DIED

John Perry Barlow

Digital-rights activist

By Tim Berners-Lee

PEOPLE WILL REMEMBER JOHN PERRY BARLOW, THE DIGITAL-rights activist and co-founder of the Electronic Frontier Foundation who died on Feb. 7 at 70, in different ways. Some will remember him through his poetry. Those who are fans of music will remember him through his lyrics for the Grateful Dead. When I found out he had died, I got six Grateful Dead CDs and put them in the six slots in the car so that they would play one after the other. However, from a selfish point of view, I would point to his work defending the open web as his main legacy.

In 1996, he wrote a manifesto, "A Declaration of the Independence of Cyberspace," which people look back on now as the definitive cyberutopia statement. He believed that with tech, we can make the world a whole lot better. He imagined everybody connected, building a place of love and mutual assistance and understanding. I don't think he was naive. I think he was very grounded in reality; he could see things from many sides, and was prepared to go to all kinds of places for his message. But he made an extreme statement, which people still find really valuable.

You could argue that Barlow's dreams are needed even more today, in 2018, than when he wrote that manifesto. We're a long, long way from the utopia of peace, love and understanding, and we need people more than ever to evangelize for technology, and for the good.

Berners-Lee is a British computer scientist who invented the World Wide Web, and founder of the World Wide Web Foundation

INTRODUCED

Facebook's next reaction to anti-social media

THE "LIKE" BUTTON has been a Facebook mainstay for as long as many of the network's 2.13 billion monthly users can remember. Now the social-media giant has started testing, on select public pages for a small set of U.S. Android users, a "downvote" feature.

This is not the fabled "dislike" button the company was once rumored to have been developing, though Facebook has recently taken other steps—like the introduction of a range of reactions, from "angry" to "love"—to acknowledge the complexity of social-media interactions. Rather, it's a new way to provide Facebook with feedback about comments that are inappropriate, misleading or uncivil. The downvoting system being tested could make it easier to report spam and cyberbullying, potentially marking an important step for Facebook as it continues to crack down on phony accounts.

—LISA EADICICCO





LightBox

Amid the destruction

Rescue workers search for survivors on Feb. 7 inside one of the buildings most seriously damaged by a 6.4-magnitude earthquake in Hualien, Taiwan. At least 16 people were killed and more than 290 were injured in the devastating quake, emergency officials said.

Photograph by Ritchie B. Tong—EPA/Shutterstock

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**CHILDHOOD POVERTY
CREATES
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CREATES
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The View

'WHERE THERE IS ANGER, THERE IS UNDERLYING PAIN.' —PAGE 21



The #MeToo movement has made men face professional consequences for their misconduct

SOCIETY

When the court of public opinion begins to favor women

By Susanna Schröbsdorff

TO ALL THE MEN WHO ARE WORRIED since the start of #MeToo that their careers and reputations could be shattered by mere allegations, as the President put it recently, I'd like to say: Welcome to the club.

Even before social media made slander user-friendly, a woman's reputation could be destroyed with a single cruel rumor or photo. Maligning her character or sexual behavior can neutralize a woman's accomplishments and her grievances. That threat has kept us quiet and cautious about whom we challenge and why.

Till now, the court of public opinion has been harsher on women than on men. There, a man's talent or value as artist, politician or executive, especially a white one, was weighed against his personal transgressions.

More often than not, many people—including women, who are often complicit—have chosen to ignore or wall off ugly, abusive behavior from professional competence.

But those walls are increasingly porous. Cruelty, deception and corruption inevitably leak through and taint the work and the lives of all those associated. Many of the executives, artists and politicians toppled by #MeToo were already known to be bullies or harassers. Those open secrets didn't wreck their careers if they were making money for someone or fulfilling some need. Instead, the people around them suffered. Those who openly resisted men like accused rapist Harvey Weinstein say it was *their* careers that took a hit, and that standing up made it hard for them to rise in their field.

Tellingly, the person who has so far paid the greatest price for Weinstein's behavior is a woman. Hollywood manager Jill Messick was devastated when her former client Rose McGowan suggested that she enabled the mogul's abuse. Messick committed suicide earlier this month. "She became collateral damage in an already horrific story," her family said in a statement.

Monica Lewinsky was also collateral damage. Congress impeached Bill Clinton for lying about their affair when she was an intern. He was called a liar, a philanderer and an opportunist. Yet by the end of his term, his approval rating soared, surpassing that of any modern President—even Reagan. We gave him a mulligan; the intern took the real hit. She was the one who couldn't shake the stigma. It blighted her life for decades and drove her to become suicidal.

But now the rules are changing, and I understand why men are unnerved. It's no fun to worry that you won't be believed.

Senator Orrin Hatch seemed shocked when it White House staff secretary Rob Porter, who had served as Hatch's chief of staff, was accused by both his ex-wives of punching, kicking and abusing them. Porter said he was being smeared, that one ex-wife's black eye came from a fall, not his fist. Senator Hatch and President Trump jumped to his defense. "Shame on the politically motivated, morally bankrupt character assassins that would attempt to sully a man's good name," fumed Hatch. And after Porter was forced to resign, Hatch said he would hire someone like him again.

But this time the women would not be shamed into silence. When the President implied in a tweet that Porter was falsely accused, Porter's ex-wives Colbie Holderness and Jennie Willoughby reluctantly stepped into the spotlight to refute the idea that they would lie about these painful experiences, or that their claims were "mere allegations" rather than findings in a months-long investigation by the FBI, a process that produced enough evidence to deny Porter a security clearance.

Perhaps to the surprise of a President who has ascended despite the many women who have accused him of sexual assault and misconduct, the public is listening to these women. Regardless of who knew what when about both Porter and a White House speechwriter who also denied accusations of domestic violence, it's clear that for some period of time, top officials turned a blind eye to evidence that a man who hits women was at the heart of this Administration.

At last, abuses like these are seeping through the wall between personal and professional that for so long has shielded powerful men from their own misconduct. And as women know all too well, those stains can be permanent. □

Vice
Admiral
Sawyer
assumed
his post
on Aug. 23

QUICK TALK

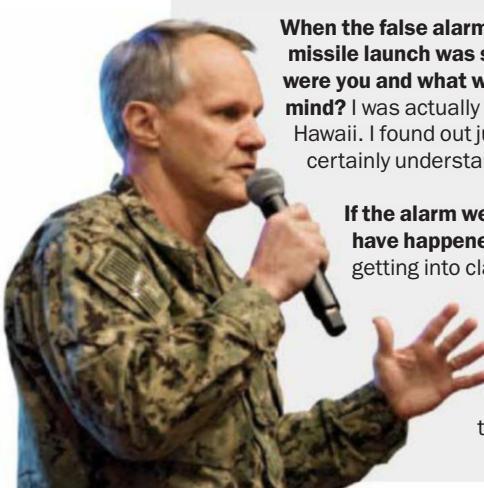
Vice Admiral Phillip G. Sawyer

The Commander of the U.S. Navy's 7th Fleet, which is based in Japan, oversees America's largest forward-deployed maritime force

How concerned are you about Chinese militarization in the South China Sea? Well, I think even [Chinese President] Xi Jinping said they were not going to militarize these islands on the South China Sea. We do see progress being made, buildings being constructed and other things. They've come out and said what they will not do, so at the government level we need to check their homework.

What would be the role of the 7th Fleet in nuclear warfare? I don't really have a role in nuclear conflict, which is up to Strategic Command in Nebraska and our leadership back in D.C. I don't envision a nuclear conflict in the foreseeable future. I just don't think that's a plausible scenario.

Two Navy ships in the Pacific had collisions last year, killing 17 sailors. What are the lessons to be learned? I think it's important to recognize that the accidents, while they were tragic, were also preventable. We should not forget as we move forward that we lost 17 sailors' lives, and that's one of the motivators for getting things right. As a military leader, the treasures we have are the sons and daughters, mothers and fathers, the nieces and nephews of the American populace. There's a covenant; families provide their treasure to us as a military, and our job is to defend the homeland and to make sure we take care of the people that are entrusted to us. What I'm doing with my team in the very near term on those things that I can uniquely control is scheduling; making things deliberate and predictable, to make sure we carve out time for maintenance, training and certification.



When the false alarm about a ballistic missile launch was sent in Hawaii, where were you and what went through your mind? I was actually traveling that day to Hawaii. I found out just after the fact. I certainly understand the angst it caused.

If the alarm were real, what would have happened? Well, without getting into classified information, there are procedures. Clearly, if the U.S. was attacked, it changes whatever I had planned to do that day. —Feliz Solomon



On Feb. 1, a train passenger took to social media to complain about someone's chatter

ADVICE

What to say to a rude person

By Danny Wallace

RECENTLY, AS THE BRITISH DOCTOR LORD Robert Winston took a train from London to Manchester, he found himself becoming steadily enraged. A woman had picked up her phone and begun a loud conversation, which would last an unbelievable hour. Furious, Winston began to tweet about the woman. He took her picture and sent it to his more than 40,000 followers.

When the train arrived at its destination, Winston bolted. He'd had enough of the woman's rudeness. But the press were now waiting for her on the platform. And when they gleefully showed her the lord's messages, she used just one word to describe Winston's actions: *rude*.

Winston's tale is something of a microcosm of our age of increasing rudeness, fueled by social media (and, often, politics). What can we do to fix this?

Studies have shown that rudeness spreads quickly and virally, almost like the common cold. Just witnessing rudeness makes it far more likely that we, in turn, will be rude later on. Once infected, we are more aggressive, less creative and worse at our jobs. The only way to end a strain is to make a conscious decision to do so. We must have the guts to call it out, face to face. We must say, "Just stop." For Winston,

that would have meant approaching the woman, telling her that her conversation was frustrating other passengers and politely asking her to speak more quietly or make the call at another time.

The rage and injustice we feel at the rude behavior of a stranger can drive us to do odd things. In my own research, surveying 2,000 adults, I discovered that the acts of revenge people had taken ranged from the ridiculous ("I rubbed fries on their windshield") to the disturbing ("I sabotaged them at work"). Winston did shine a spotlight on the woman's behavior—but from afar, in a way that shamed her.

We must instead combat rudeness head on. When we see it occur in a store, we must step up and say something. If it happens to a colleague, we must point it out. We must defend strangers in the same way we'd defend our best friends. But we can do it with grace, by handling it without a trace of aggression and without being rude ourselves. Because once rude people can see their actions through the eyes of others, they are far more likely to end that strain themselves. As this tide of rudeness rises, civilization needs civility.

Wallace is the author of *F You Very Much*

SAWYER: MASS COMMUNICATION SPECIALIST 1ST CLASS LEONARD ADAMS—U.S. NAVY; RUDE: GETTY IMAGES

RACE

Black History Month is not just a celebration

By Theodore R. Johnson

CARTER G. WOODSON, THE black historian and creator of Negro History Week in 1926, wrote: "If a race has no history, if it has no worthwhile tradition, it becomes a negligible factor in the thought of the world." That is, no amount of legislation can grant you equality if a nation doesn't value you.

It's not that policy doesn't matter. But lost amid today's facile depictions of Harriet Tubman's Underground Railroad or George Washington Carver's peanuts is black America's claim as co-authors of the United States, a version of history the nation has never accepted. Indeed, policy is needed, but the politics of black history tells us that ain't enough. Nearly five times as many white Americans as black ones say the U.S. has made the changes necessary to give black people equal rights—while four times as many black Americans as white ones believe we will never make those fixes.

Woodson believed that celebrating black history was a political act to "destroy the dividing prejudices of nationality and teach universal love without distinction of race, merit or rank." Not because learning about, say, a black inventor would inspire white magnanimity, but because failure to accept black people as fellow architects of the United States is an existential threat to the nation we call home.

Johnson is a Senior Fellow at the Brennan Center for Justice



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President Trump will not diminish my truth

By Jennie Willoughby

RECENTLY, A FRIEND AND I WATCHED AS THE PRESIDENT OF the United States sat in the Oval Office and praised the work of my ex-husband, Rob Porter, and wished him future success. I can't say I was surprised. But when Donald Trump repeated twice that Rob had declared his innocence, I was floored. What was his intent in emphasizing that point? My friend turned to me and said, "The President of the United States just called you a liar."

Yes. And so he did.

The next morning, following the overnight resignation of another White House staffer who claimed he was innocent after his ex-wife came forward with her story of abuse, the President tweeted:

Peoples lives are being shattered and destroyed by a mere allegation. Some are true and some are false. Some are old and some are new. There is no recovery for someone falsely accused - life and career are gone. Is there no such thing as Due Process?

There it is again. The words *mere allegation* and *falsely accused* are meant to imply that I am a liar. That Colbie Holderness, Rob's first wife, is a liar. That the work Rob was doing in the White House was of higher value than our mental, emotional or physical well-being. That his professional contributions are worth more than the truth. That abuse is something to be questioned and doubted.

Everyone wants to talk about how the White House and former colleagues defended Rob. Of course they did! They valued and respected him. The truth would be dissonant with everything they believed to be true about the man they knew. The truth would be devastating. And denial is easier than devastation.

Everyone wants to talk about how Trump implied that I am not to be believed. As if Trump is the model of kindness and forgiveness. As if he readily acknowledges his own shortcomings and shows empathy and concern for others. I forgive him. Thankfully, my strength and worth are not dependent on outside belief—the truth exists whether the President accepts it or not.

I think the issue here is deeper than whether Trump, or General John Kelly, or Sarah Huckabee Sanders, or Senator Orrin Hatch, or Hope Hicks, or anyone else believes me or defends Rob. Society as a whole has a fear of addressing our worst secrets. (Just ask any African-American citizen.) It's as if we have a societal blind spot that creates an obstacle to understanding. Society as a whole doesn't acknowledge the reality of abuse.

The tendency to avoid, deny or cover up abuse is never really about power, or money, or an old boys' club. It is deeper than that. Rather than embarrass the abuser, society is subconsciously trained to question the victim of abuse. I would call it an ignorant denial based on the residual, puritan,

collective agreement that abuse is uncomfortable to talk about.

Amid the rash of sexual-assault revelations born of the #MeToo movement, even I found myself questioning the accuser. I almost allowed my societal conditioning to override what my heart knows to be true: abuse is scary and demoralizing and degrading. It chisels away at your self-esteem and self-worth until you are unsure of whether your version of reality is valid or not.

If someone finds the strength and courage to come forward, he or she is to be believed. Because that declaration only came after an uphill battle toward rebirth.

ULTIMATELY, this is not a political issue. This is a societal issue, and the tone has just been reset by the White House. If the most powerful people in the nation do not believe my story of abuse in the face of overwhelming evidence, then what hope do others have of being heard?

We are at a critical moment in history, and there are three things that I know to be true: Where there is anger, there is underlying pain. Where there is denial, there is underlying fear. Where there is abuse, there is cover-up.

While I may have compassion for my ex-husband and recognize his need for help, I do not tolerate abuse. While I may understand President Trump and General Kelly's incredulity at such a counterimage of their golden boy, I do not condone their choice to support him.

In light of the President's and the White House's continued dismissal of me and Colbie, I want to assure you that my truth has not been diminished. I own my story, and now that I have been compelled to share it, I'm not willing to cover it up for anyone. And for any men, women or children who are currently in situations of abuse, please know:

It is real.

You are not crazy.

You are not alone.

I believe you.

Willoughby is a former schoolteacher. She writes at BorneBackCeaselessly.com



What the Obama portraits reveal about power and progress

By Maya Rhodan

A KEHINDE WILEY PORTRAIT IS NEVER HARD TO SPOT: bursts of jewel-tone colors, Rococo floral swirls and, usually, a black or brown person as the subject. His depiction of Barack Obama is no exception. In the grand 7-by-5-ft. painting, unveiled in a ceremony at the Smithsonian Institution's National Portrait Gallery on Feb. 12, Obama is seated in an ornate brown chair, his arms folded neatly across his lap. Bright green vines illuminate the background; buds of lilies, chrysanthemums and jasmine are peppered throughout. He practically levitates amid the verdure. The image is a striking departure from the staid presentation of many of the other 43 Presidents in the "America's Presidents" exhibit. And for that reason, it feels like an essential addition to U.S. history.

The exhibit is curated in chronological order, but depending on how you enter, it opens with either George Washington or Obama. Like the historic Lansdowne painting of Washington, Obama's portrait is rife with symbolism. But where Gilbert Stuart flirts with the splendors of the office of the President, Wiley alludes to the story of the man himself. "The way we think about a presidential portrait is one that is imbued with dignity from the outset. It is a vocabulary that has been fixed," Wiley tells TIME. "The challenge here was to allow certain aspects of Barack Obama's power and respectability to be a given so that we could move forward with a different type of narrative."

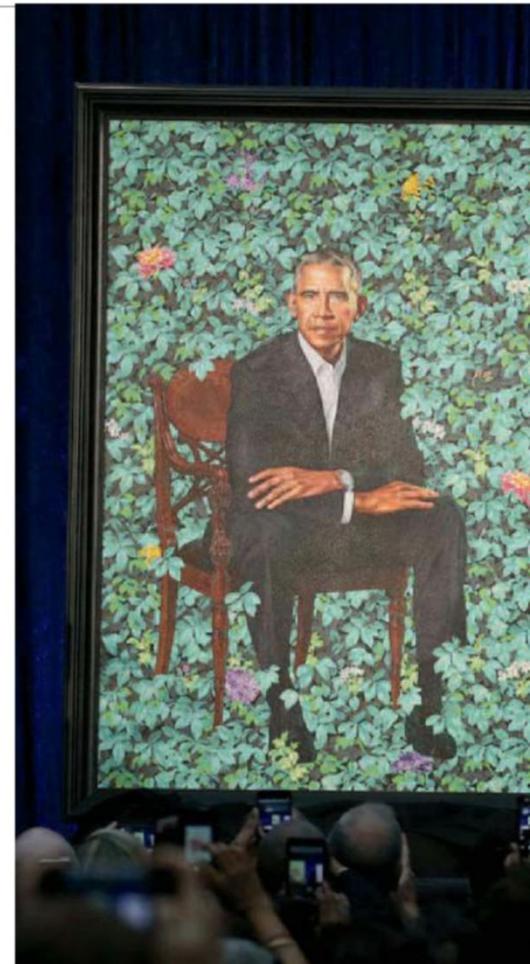
Wiley stripped away the trappings of office in order to depict the former President's life journey. African blue lilies are a nod to Obama's father's home country of Kenya. Chrysanthemums are the official flower of the city of Chicago, where Obama met his wife Michelle and started both his family and political career. Pikake, or Arabian jasmine, thrives in Hawaii, where the President spent much of his youth. These botanicals are a challenge to viewers to grapple with the improbability of Obama's rise. The way the President appears to lean toward the viewer, his collar unbuttoned, exudes a level of openness not seen in some of the other portraits, says Taína Caragol, who curated the Wiley commission for the Portrait Gallery. It's "indicative of the values of his presidency," she says, "And the notion of a democracy that works from the bottom up instead of from the top down."

For the first time in its 56-year history, the National Portrait Gallery commissioned two African-American artists, Wiley and the Baltimore-based artist Amy Sherald, who created Michelle Obama's portrait, to paint the First Couple. The gallery raised \$500,000 in private funds from benefactors including Steven Spielberg and Kate Capshaw, Judith Kern and Kent Whealy. A spokesperson for the gallery would not discuss the artists' fees or how the price compared with previous commissions.

The Obamas chose Wiley and Sherald after considering portfolios of some 20 artists. The Obamas interviewed a few at the White House, but ultimately decided on the two

**'You
don't hire
Kehinde
Wiley
to have
a tame
painting.'**

WILEY, the artist who painted Barack Obama's official portrait, on his bold work



contemporary portraitists with whom they each felt a connection. Both artists' work shows a commitment to making portraits of people who have traditionally been marginalized. Sherald, 44, typically paints subjects in ordinary clothes, holding everyday poses, but their features are striking, their skin tones are rendered in shades of gray, with pops of color throughout the canvas. Wiley, 41, is known for larger-than-life riffs on Western art. In their portraits, Sherald and Wiley both upend notions of what it means to hold power, particularly as a person of color in America. "Portraits are about revealing aspects of an individual," says Wiley. Through his art, Wiley bestows the honor and symbols that have traditionally been reserved for the upper class upon everyday people, he says, "allowing us to look at people that are often invisible in a different light."

WILEY'S PAINTINGS OFTEN replace white aristocrats and dignitaries with black and brown people—subjects he seeks on the streets of major U.S. cities—in clothing like hoodies, combat boots and do-rags. In *Napoleon Leading the Army over the Alps*, his version



Barack Obama at the unveiling of the former First Couple's official portraits on Feb. 12

of the French general dons camouflage, Timberland boots, a white T-shirt and a bandanna. Wiley has also been commissioned to paint musicians as nobility. In *Equestrian Portrait of King Philip II*, Michael Jackson (the King of Pop) sits atop a white steed as a pair of cherubs adorn his head with a wreath.

The motifs are informed by Wiley's life. He was born in Los Angeles in the late '70s and raised by a single mother as the hip-hop era began to take shape. Though the family didn't have much in terms of money, his mother immersed him in art. On weekends as children, he and his twin brother would travel by bus to classes at a conservatory on the campus of California State University, Los Angeles. When Wiley was around 12, he was among a group of 50 students who traveled to Russia to study its language and art. He went on to study at the San Francisco Art Institute and earned a master's degree in painting at Yale. Like Obama, Wiley grew up without his father and traveled to Nigeria to meet him later in life—a parallel between artist and subject that was not lost on either man.

In a speech at the unveiling

ceremony, Obama said that he has always been struck by the way that Wiley's portraits confront notions of power and privilege—Wiley takes "extraordinary care and precision and vision in recognizing the beauty and the grace and the dignity of people who are so often invisible in our lives and put them on a grand stage, on a grand scale." The President joked that while the artist's impulse may have been to elevate him (Wiley has painted more than a few of his subjects on horseback), "I had to explain, 'I've got enough political problems without you making me look like Napoleon!'"

"You don't hire Kehinde Wiley to have a tame painting," Wiley says with a laugh. "I think in a sense he sort of got what he was asking for." But the effect the portrait has on the "Presidents" exhibit isn't lost on the artist: "It was a bold move," he says. "This painting stands out as a game changer, really. And I think that's in keeping with the type of

bold leadership and authentic voice that this President gave to this nation."

THOUGH LESSER KNOWN than Wiley, Sherald is a rising star. In 2016 she became the first woman to win the prestigious Outwin Boochever Portrait Competition, beating 2,500 other entries. She was also recently awarded the High Museum of Art's David C. Driskell Prize. As with Wiley, Sherald's approach to the First Lady's official portrait was true to her artistic method. Obama is styled in a Milly dress that reminded Sherald of the patterns of Gee's Bend, a black community in Alabama famous for its brilliant quilts. Obama represents an ideal, says Sherald, "a human being with integrity, intellect, confidence and compassion. And the paintings I create aspire to express these attributes—a message of humanity."

In Sherald's portrait, the former First Lady's silvery skin glows against a pale blue backdrop. Where Wiley's piece is exuberant and lush, Sherald's is spare, casting the First Lady as the focus. The singularity of the piece asks the viewer to contemplate the strength and presence of Michelle Obama both as she was in the White House, and as she remains in the hearts of the many who look up to her.

Even days after the big reveal, the portraits have continued to generate conversation. Patrons have been lining up to view the portraits in person. Digital versions of both paintings have flooded social-media feeds and news sites. Caragol says that while there has been a widespread embrace of the uniqueness of the artwork, she believes many will be challenged by their unconventional nature. To really see them, she said, will require the viewer to think about portraiture in a fresh way.

"Systems of representation are interesting because they surround us to the point of making us take them for granted," Caragol says. "So many things could be seen differently and yet we don't know because we're just used to seeing them the way they are." In a sense, the election of Obama did that to the office of the presidency. It seems fitting that his official portrait illustrates that too. □



Nation

DONALD TRUMP'S FORGOTTEN MAN

*Vonie Long,
president of
the United
Steelworkers'
local union in
Coatesville, Pa.*



**Blue collar
workers won him
the election.
They're still
waiting for him
to deliver.**

By MOLLY BALL/
COATESVILLE, PA.

DONALD TRUMP WAS SAYING EVERYTHING Vonie Long wanted to hear, not that Long believed him.

The head of the United Steelworkers' local union in Coatesville, Pa., Long was sitting in his electrical-maintenance truck in June 2016, listening on the radio to Trump give a speech on trade at an aluminum plant on the other side of the state, outside Pittsburgh. Trump had begun with a tribute to the steelworkers who built America. He blasted the politicians who pursued globalization and pledged to fight unfair trade practices that threatened U.S. jobs. Most of all, he made promises, from renegotiating the North American Free Trade Agreement (NAFTA) to imposing a tariff on steel.

Long, a stout man with a bristly gray mustache, was impressed. Republicans didn't usually talk like this. "Any of us steelworkers could have given that exact speech," he told me recently. And while Long, a Democrat, voted against Trump, after the election he hoped that Trump might actually follow through.

But it hasn't panned out that way. A year into Trump's term, the factories have not roared back. His accomplishments—a massive corporate tax cut, a strong stock market—have largely redounded to the benefit of the bankers and fat cats. Trump has taken few of his promised actions on trade and manufacturing. The American steel industry has suffered as the market floods with imports, forcing prices down, all while the Administration dithers and delays over tariffs.

As Long sees it, no one should feel more betrayed by the Trump presidency than the archetypical Trump supporter: the white working-class voter whom Trump dubbed the Forgotten Man. And yet, to his great frustration, many of his fellow blue collar workers don't seem to grasp how Trump has abandoned them. As of last month, the President's approval rating was 46 percent among white non-college-educated voters, down 7 points since he took office, according to the polling firm Morning Consult. "The most vocal supporters of him, they're just unwavering," Long says, shaking his head.

The immovable loyalty of Trump's narrow but vocal base has broad ramifications, not just for the Democratic Party but also for the nation. Unbridgeable divides make governing nearly im-

possible: there can be no consensus in a politics of blind tribalism. But the real tragedy of Trump's broken promise to the working man is the missed opportunity it represents. Trump had a chance, advocates argue, to bring back American manufacturing—and spur a populist political realignment in the process. Many of the residents of Trump Country, the nation's hollowed-out former industrial heartland, still hold out hope that he can do it. But the President seems to have forgotten them.

THE BLUE COLLAR MAN is the mascot and enigma of the Trump era: endlessly analyzed, endlessly interrogated. Reporters and researchers have returned again and again to Trump Country since 2016, asking the same question—What do you think of the President now?—and getting the same answers: *It's a witch hunt. He's shaking things up.*

Scott Paul, head of the Alliance for American Manufacturing, has given up asking; the answers are always unsatisfying. "There's a lot of forgiveness," Paul, a slight, fine-featured 51-year-old, tells me as he drives his battered Ford SUV down the two-lane highway out of Coatesville. "There's kind of a list of reasons why he hasn't done this or hasn't done that." But Paul keeps coming back to places like Coatesville anyway. He's not on a mission to win votes for the Democrats. His aim is to try to get the President to keep his commitments.

A picturesque town of 13,000, Coatesville was once known as "Pittsburgh East" for its booming steel industry that employed as many as 8,000 people. The massive plant that looms over the town is the U.S.'s longest continuously operating steel mill, open since 1810. It produced the 152 nine-story fork-shaped supports that formed the base of the original World Trade Center—many of which stayed standing when the towers fell on Sept. 11. It makes nuclear-submarine parts and mine-resistant armor for military vehicles in Iraq and Afghanistan.

Today the plant is badly diminished. In 2003, it was acquired by an investment group led by Wilbur Ross, now Trump's Secretary of Commerce; it was eventually bought by the Luxembourg-based industry giant ArcelorMittal, and operates at a fraction of its capacity. The steelwork-



ers' local that Long oversees now has just 580 members at the plant.

Like Long, Paul hails from Trump Country, having grown up in rural northwestern Indiana. A former trade lobbyist for the AFL-CIO, his association is funded by American steel unions and manufacturers. And while he didn't vote for Trump, he understood why so many working-class white people did.

"When you see Pennsylvania, Michigan, Ohio and Wisconsin all end up in the same place," Paul tells me, "there's a reason for it." Trump's opposition to globalization broke with the GOP's elite consensus. But it tapped a wellspring of sentiment in the party's base that politicians like Ross Perot and Pat Buchanan recognized decades ago. There's a similar fissure in the Democratic Party, where populists like Bernie Sanders opposed the Obama Administration's push for deals like the Trans-Pacific Partnership (TPP). It's not a coincidence, Paul believes, that both Sanders and Trump drew so much support from the industrial Midwest.

To be sure, some white working-class voters were nativists who thrived to Trump's rants against China, Mexicans and Muslims. Paul doesn't deny that



Coatesville, above, was once known as "Pittsburgh East" for its steel production. Today the local steelworkers' union, left, has just a few hundred workers at the town's plant

racism and sexism played a role but says that "some of it is a sense that their manufacturing communities have been left behind." President Obama promised to add a million manufacturing jobs in his second term; the total came to only about 360,000.

Paul was willing—even eager—to work with Trump. He saw it as an encouraging sign when the just-elected President asked him to serve on a newly created advisory council on manufacturing jobs. "A year ago, I thought there was a reasonable possibility we'd get an infrastructure bill, we'll get 'Buy American' laws, there'll be

a crackdown on China, he's going to look out for the steel industry, and he's going to renegotiate NAFTA," Paul says. "That's something I wanted to be a part of."

Instead, Paul found himself cringing as Trump did things he didn't support, from pulling out of the Paris Agreement to the ban on travelers from some Muslim-majority countries. In August, when Trump hesitated to denounce the deadly white-nationalist march in Charlottesville, Va., Paul hit his breaking point. He was one of eight members to resign from the manufacturing initiative, which the White House then disbanded.

Since then, Paul has watched from the sidelines as Trump's promises have been indefinitely delayed. The lack of progress on a controversial Chinese steel tariff is a case in point. An obscure provision, Section 232 of the Trade Expansion Act of 1962, allows the U.S. to restrict imports if national security is at stake. In an April ceremony at the White House attended by steelworkers' representatives and CEOs, Trump announced an investigation into steel imports under Section 232. But the Administration's original June deadline has come and gone, and still no decision has been announced.

The "Buy American" order Trump signed in January didn't actually, as he claimed, require that the Keystone XL oil pipeline be built from American steel. The trade deficit with China recently hit \$375 billion, the highest level in history. Although Trump pulled out of TPP and has undertaken talks to renegotiate NAFTA, all the trade agreements the U.S. was a party to when he took office remain unchanged. It wasn't until Feb. 12 that the White House finally unveiled its infrastructure plan, to indifference on Capitol Hill. Rather than support building new highways and bridges and airports and railways, as Trump once promised, the proposal provides seed money to encourage private companies to build things like toll roads.

The lack of action is partly the result of a battle under way within Trump's own Administration. Trade hawks like Peter Navarro and Robert Lighthizer stoke Trump's protectionist impulses, only to be resisted by more mainstream economic advisers, from Gary Cohn to Republicans in Congress. Meanwhile, the Chinese have wooed the President aggressively, with apparent success: so far, the only win for the protectionists has been a minor action imposing trade restrictions on solar panels and washing machines. (Recently, the President has appeared to refocus on these priorities, touting infrastructure and meeting with senators on tariffs. "Everything that President Trump has done since taking office has been directed toward making the country better for all Americans," a White House official told me, "including the men and women who had felt forgotten by decades of bad deals and regulations that sent their factories and jobs overseas.")

Economists differ on the potential effect of trade restrictions. But in the near term, the effect of Trump's indecision on towns like Coatesville has been immediate. When Trump announced the Section 232 investigation, other countries began pumping out steel to ship to the U.S. before a tariff took hold. The glut of supply sent steel prices tumbling. A pipe mill outside Harrisburg has had layoffs, as has a steel mill in Conshohocken. Another in Kentucky announced it will shut down.

Paul wonders what might have been. "I've been around politics enough to know there's a gap between campaign promises and what an elected official can deliver," he says. "But imagine if, at the beginning of his Administration, Trump had said to Democrats, 'Let's work on trade enforcement, let's do infrastructure,' instead of trying to repeal the Affordable Care Act and pushing a very partisan exercise on taxes." He chuckles ruefully. "What a different place we could be in now."

TRADE PROONENTS argue that the steel jobs aren't coming back, and towns like Coatesville need to adjust to a new economy. In Coatesville, the future may have already arrived in the form of the humble pallet.

"There's plenty of jobs," shouts Bill MacCauley, yelling to be heard over the sound of heavy machinery as he strides through his cavernous warehouse. Just across town from the old steel mill, the John Rock Inc. pallet factory is booming. "Our biggest challenge is labor," says MacCauley, a rangy, easygoing man in blue jeans. In his telling, the pallet, that simple slatted platform, is the unsung hero of the American economy. "Pallets are a better barometer of the economy than anything else," he contends. "Everything in this country moves on a pallet."

MacCauley, who grew up on a farm, was working as the plant manager in 1997 when its founder decided to retire. Since taking over the business, he has modernized and expanded it, commissioning efficient new nailing and sawing machines and doubling the warehouse's footprint. Today MacCauley's plant nails together 20,000 pallets a day, making it one of the top five pallet-making facilities in the country by his reckoning. The nails are from Korea—they tried American nails, but the quality didn't pass muster.

Winters are typically busy in the pallet business as the holidays and Super Bowl spur shipping demand. But MacCauley says business has been gangbusters since Trump took office a year ago. Since the passage of corporate tax cuts in December, MacCauley has dramatically increased his capital investments: he has \$2 million worth of new machinery scheduled to arrive in the next three months, purchases he says he wouldn't have made now if not for the legislation.

With unemployment down to 4.1%, companies across the U.S. have had to scramble to find workers, driving wages up and forcing recruiters to get creative. John Rock is no exception. Pay starts at \$11 per hour, with full benefits and a 401(k). MacCauley has raised wages by \$1 over the past year, in part to compete with landscaping jobs. He estimates that a majority of the plant's workers are Latino. The job market is so tight that the company has started recruiting women for what has traditionally been men's work. "Whether you like Trump or not, the fact remains: everybody's doing better than they were a year ago," MacCauley says. "We're probably going to look back at this as one of the biggest booms in our lifetime."

It's not quite accurate to attribute all this to the new Administration. Unemployment was plummeting before Trump was elected; in fact, jobs have grown more slowly under Trump than any other year since 2010, and wage growth slowed during his first year. The President boasted in his State of the Union on Jan. 30 about the addition of 200,000 manufacturing jobs, but there are still 1 million fewer Americans working in manufacturing than there were 10 years ago.

Still, to MacCauley, things look better than ever. Foreign trade doesn't bother him: "When they import goods, they import 'em on a pallet," he says. Reducing immigration would worsen MacCauley's hiring crunch—that's a part of Trump's agenda he's not so keen on—but so far Trump's crackdown hasn't affected him.

We walk out past MacCauley's office, where a bikini-girl calendar hangs on one wall and the others are festooned with livestock-show ribbons for the specialty ewes he raises as a hobby. Above a receptionist's desk is a mug reading I JUST WANT TO DRINK COFFEE AND LISTEN TO



RUSH LIMBAUGH. This plant, powered by global trade and immigrant workers, may not match Trump's populist vision, and MacCauley, the man with his name on the payroll checks, was never quite forgotten in the global economy. But from where he sits, there are plenty of reasons to be happy with Trump.

THE TRUMP BASE—that part of the electorate that supports him not reluctantly but ardently—is not the political mainstream: just 22% strongly approved of the President in one recent poll. But Trump's working-class supporters continue to fascinate and flummox political experts in part because they are stubbornly, heartbreakingly hopeful that he will eventually keep his promises to them.

At Coatesville's Little Chef Family Restaurant, 64-year-old John Gathercole sits at the lunch counter with a cup of coffee, talking about how Trump will bring back steel jobs. He spent 29 years cutting heavy steel, retiring two years before the plant closed and laid off the remaining workers. Politicians romanticize manual labor, but it was a brutal job: Gathercole believes he could have been killed if the Occupational Safety and Health Administration hadn't intervened to protect him from illegal



▲
Business is booming and workers are in demand at the John Rock Inc. pallet company in Coatesville. Owner Bill MacCauley says Trump's recently enacted tax cuts spurred him to invest in new equipment

emissions. Now he makes pocket money driving Amish workers to and from their factory gigs.

"I'm a big union man. I always will be," Gathercole says. Solidly built with slicked-back gray hair, he wears a gold chain under his Under Armour shirt. A lifelong Democrat, Gathercole cast his first-ever Republican vote in 2016. "I don't know how Trump is on unions," he says. "I liked him because he was change."

Sentiments are similar 30 miles up the road, in the once vibrant manufacturing hub of Reading. The city's garment factory is now an outlet mall, and it has one of the

highest urban poverty rates in the U.S.. at 39%. At an indoor farmers' market here, between stalls selling Amish pastries and fresh poultry, locals are yelling at one another about politics.

"Trump is going to revisit NAFTA and take a hard line with China," insists a voluble man with curly gray hair in a Snap-on tools jacket. Trade, he says, is his No. 1 issue; his wife is a United Automobile Workers union member, and his sons both work at a steel-alloy plant. "They've been busy as heck since Trump got in," says the man, who won't give his name because he's afraid he'll be at-

tacked by Trump critics.

At the other end of the table, a white-mustached man in a black driving cap can't believe what he's hearing. Eighty-two-year-old Charlie Fisher doesn't like the slogan "make America great again," he says, because he always believed America was great. When Fisher demands that the other man defend the *Access Hollywood* tape, the Trump supporter brings up Hillary Clinton's emails. "How about eight years of Obama, the Muslim in Chief, who never made 3% GDP growth?" he hollers. "See, I do my homework. I know what I'm talking about." (In fact, the economy grew 3% during several quarters under Obama.)

At the next table, Todd Hiester, 61, sits quietly thinking about the past. In 1979, when he was 19, his father got him a job at the Dana auto-parts plant. Hiester apprenticed as a tool and die maker, loved the work, and did it until the company went bankrupt in 2000. The day the factory closed, two men who worked alongside Hiester were so despondent that they shot themselves, he says. Hiester had been pulling in \$36 per hour but missed qualifying for a pension by three months. He tried going back to community college for a computer degree, but he never found another job that paid half of what he had once made.

Hiester says he voted for Trump for a host of reasons: because of the need for Judeo-Christian values on the Supreme Court, because he believes undocumented immigrants are living off government benefits, because he didn't like Clinton and because of trade. He blames the system for Trump's struggles and holds out hope that change is still coming.

"I think his intentions are good," says Hiester, a soft-spoken man wearing a dark green fleece. "His heart is very good." He is sure that Trump is doing his best to fight for the working man, and you have to admit, he says, that the President is not like all those other politicians.

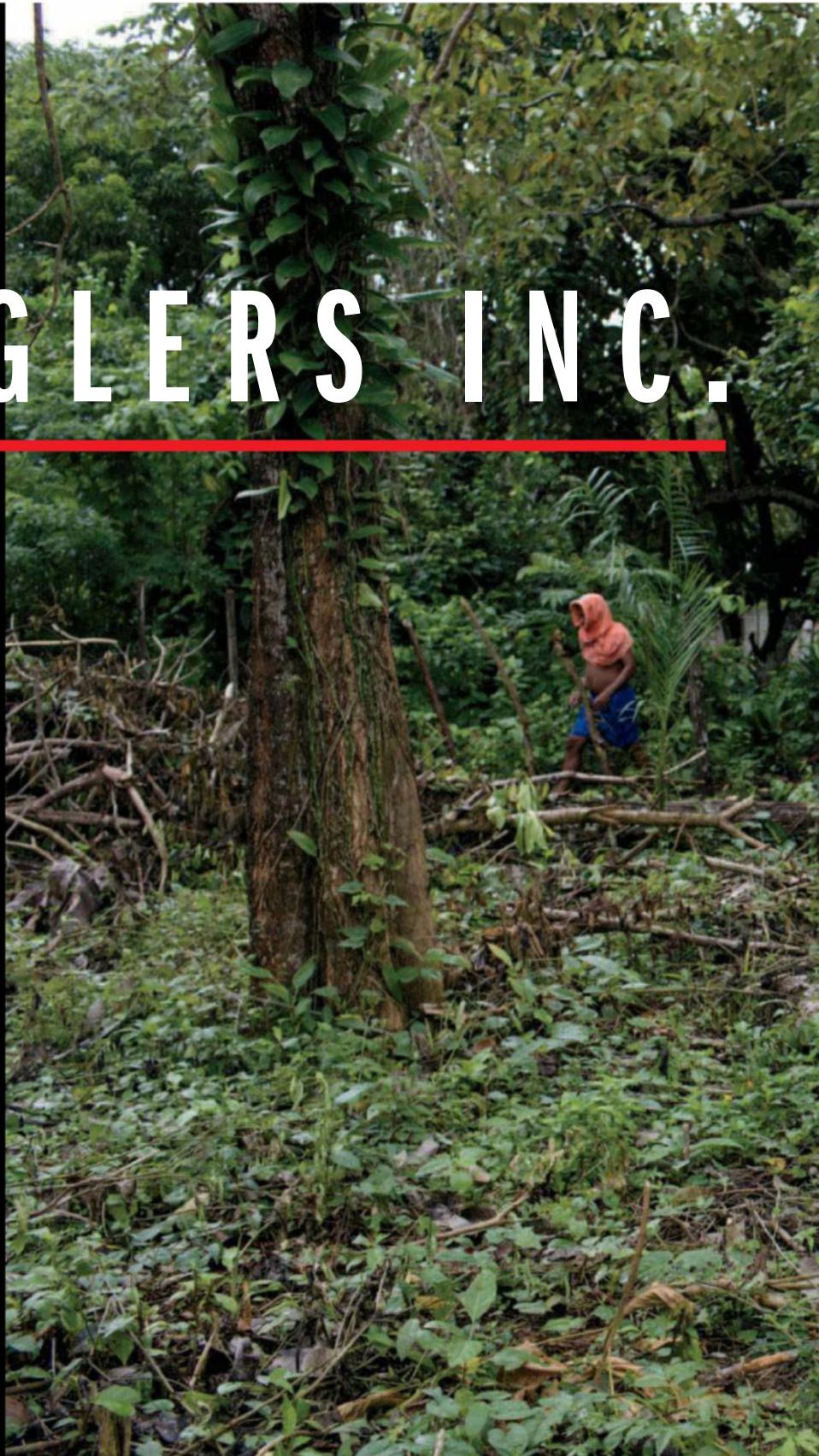
No matter that Trump's lawyers worry that he will perjure himself if he is interviewed by special counsel Robert Mueller. Forget that the *Washington Post* has recorded more than 2,000 falsehoods in Trump's first year alone. "At least," Hiester says of the President he trusts, "he doesn't lie." □

World

SMUGGLERS INC.

A VOYAGE THROUGH
THE FRAUGHT,
LIFE-CHANGING AND
TOTALLY ROUTINE
\$35 BILLION HUMAN-
SMUGGLING BUSINESS

BY KARL VICK
AND LISETTE POOLE
CAPURGANÁ, COLOMBIA, AND
PASO CANOAS, COSTA RICA



PHOTOGRAPHS BY LISETTE POOLE FOR TIME

Haitian migrants follow a coyote, left, toward their encampment on Dec. 8 in Capurganá, Colombia, the gateway to North America

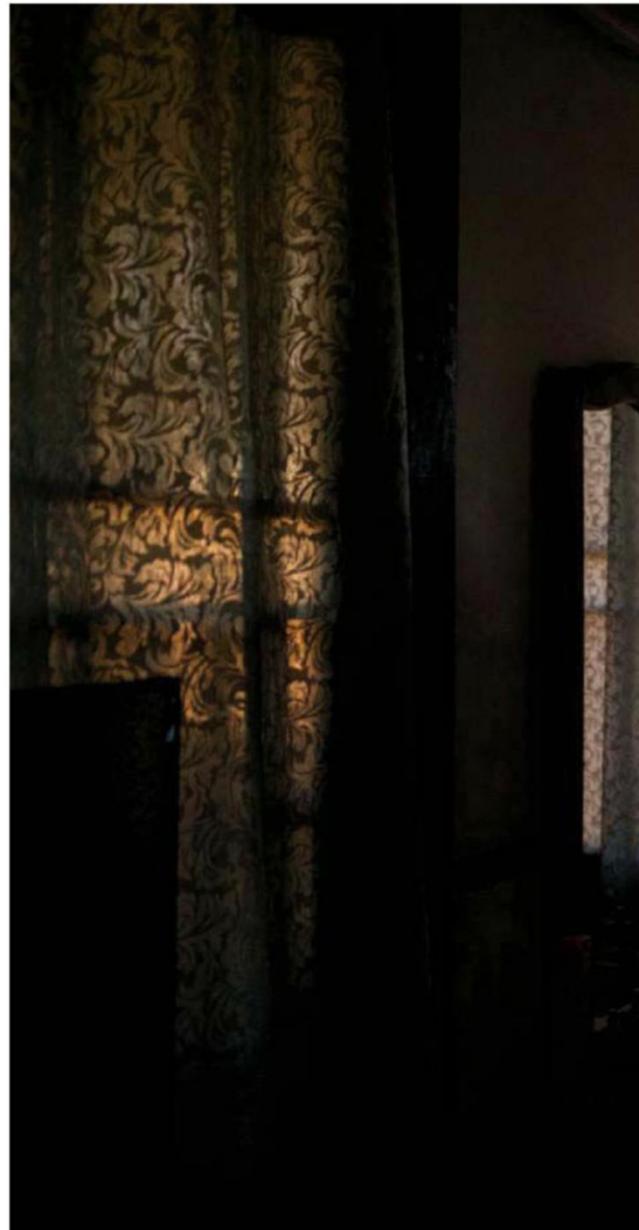


THEY ARRIVE AS BOXES. DOÑA KATIA'S CONTACT IN COLOMBIA CALLS TO SAY, "I'VE GOT SIX BOXES COMING TO YOU NEXT TUESDAY," AND SHE UNDERSTANDS HIS MEANING. IN THE BUSINESS OF MOVING PEOPLE ILLEGALLY ACROSS INTERNATIONAL BORDERS, DISCRETION IS REQUIRED.

Still *cajas*, or boxes, sounds a little cold to Katia, who prefers to talk up the human element of human smuggling. So the Indians and Eritreans, the Bangladeshis and Haitians she collects on the border where Panama meets Costa Rica acquire a new name when they travel across the latter country in her car, then board a boat to Nicaragua and a bus to Honduras, hurdling the series of borders toward the U.S. "I call them *pollitos*," she says. Baby chickens.

In Paso Canoas, a shabby Costa Rican border town facing Panama, at least 14 other smugglers—sometimes called coyotes—compete for the migrant trade. Katia, a mother of two, calculates that she has sneaked between 500 and 600 people through the heart of Central America in the past 2½ years. She knows her customers not by their names but by their faces, which show up on her phone in texts sent from another smuggler preparing to hand them off: brown men, and a few women, in sheepish clusters outside the Western Union where they have retrieved cash from a relative to cover the next leg. From South Asia, the journey costs anywhere from \$10,000 to three times as much.

Around the world, borders appear to be making a comeback. Donald Trump was elected to the U.S. presidency promising a wall. Britain recoiled from the European Union and the foreigners they were forced to allow in. But below the surface, things are



still moving. The forces that compel people to move on from what Trump calls "sh-thole countries"—higher wages somewhere else; the chance to be the one sending money home, rather than the one receiving it—have lost none of their tidal power. In 2015, every 30th person on earth was living in a country where they weren't born, or on the way to one. That's nearly a quarter of a billion people.

They chose to go. The vast majority of humans in migration are not trafficked. (The U.S. State Department's top estimate of people being moved against their will is 800,000.) Most are not fleeing war. More than 9 out of 10 people stealing across international borders—93%, according to the International Organization for Migration (IOM)—scrimped and borrowed to uproot themselves. The IOM says smugglers collect \$35 billion a year to facilitate what is simultaneously an epic journey, a crime and a service.



◀
Katia began smuggling migrants—she calls them her “baby chickens”—toward the U.S. 2½ years ago

At base, it's a business. And Katia, as she sometimes calls herself, offers a rare view into how it works. In a series of interviews with TIME, she laid out her smuggling operation in detail, from the bribe expected at a police checkpoint in Nicaragua to the surprisingly modest monthly profit she pockets from work that outsiders assume is part of a vastly lucrative industry dominated by hardened criminal gangs.

“I think, fundamentally, this is a process of global osmosis,” says Tuesday Reitano, whose title is the deputy director at the Global Initiative Against Transnational Organized Crime but who regards the phenomenon as more natural than iniquitous. “People are moving around through semipermeable borders. They go from where it's poor to where it's rich until they overwhelm the system and make that less rich, and then they go somewhere else. And ultimately, it all ends up at room temperature.”

That the U.S. is overwhelmed and growing less rich because of immigrants was a premise that helped lift Trump into office. That premise may not hold up to scrutiny; the Organisation for Economic Co-operation and Development suggests that migrants contribute more in taxes than they consume in benefits. But emotions matter in politics, and working-class wages in the U.S. have been stagnant or worse since companies became freer to move operations to countries where labor costs less, a central tenet of globalization. The other half of that equation is that labor will ignore borders as well.

THE LARGEST NUMBER of migrants, according to the IOM, set off from India. And the world's top destination remains the U.S. So there was a logic to finding, on an overcast December afternoon in Costa Rica, a tall, brown-eyed man from Punjab standing beside the Christmas tree in Katia's living room.

The journey of Mulkit Kumar began a month earlier, in a northeastern India village that's small but hardly disconnected. To see his wife holding their baby in the house he left, the construction worker presses the video icon on his smartphone. When he decided to leave that house for good, he used that same phone to dial a number in New Delhi. "Friend of a friend," Kumar says of how he found the first smuggler. "There are a lot of people who have made the journey before."

We are all in Katia's house, a modest bungalow built with her earnings as a coyote, alive with her niece's chatter and her son's PlayStation, when her own phone rings. She yelps. It's the Delhi contact. "I already withdrew the money," she tells him. "My love," he coos in reply, in Hindi-accented Spanish.

"Yes, I'm a good person," she says. "Friday I will get the guy out, and then the following week I'll get the other guys who are coming from Ecuador."

Between them, the two smugglers arranged most of Kumar's journey, which will be financed—as most migrant travel is—by the traveler's extended family. Relocating a wage earner to a country with much higher wages and the prospect of upward mobility amounts to an investment, and a sound one. The transplant will wire home a few hundred dollars a month, likely for decades. Worldwide, such remittances were on track to total \$444 billion in 2017, according to the World Bank. That total has nearly quintupled over the past 15 years, the bank says, and proved a far more stable source of funds for poor countries than either foreign direct investment or private investment capital.

Kumar says his four sisters came together to cover his expenses: 140 rupees (\$2) for the bus ride to Delhi and 60,000 rupees (about \$950) for the airfare to Quito, the capital of Ecuador. Smugglers say that if you want to go to the U.S., start by booking a ticket to Quito. Ten years ago, the South American nation threw open its doors to the world, requiring no visitor to arrive with a visa. And though the policy has tightened some since, the reputation endures. The border of Colombia lies just 150 miles away, and from there it's a couple days up the Central America trail to the edge of North America.

The journey is life-changing, fraught—and routine. Five years ago, only a few hundred migrants routed themselves to the U.S. through South America, but the number soared in 2015 to nearly 30,000, according to Colombia's government, which took measures to regularize the journey. In the grubby port city of Turbo, officials last year began taking the names of migrants as they boarded ferries that were headed north. A ferrymen's clipboard shows that 46 migrants made the trip one day in October, 106 the next. Each carried a *salvo conductor*, or "safe conduct" pass, permitting them to remain in the country for five days.

The trip from Turbo in a long, open boat crosses

the Gulf of Urabá and ends in another realm. The remote town of Capurganá lies just inside Colombia but beyond the writ of its government. The area—rebel territory during the nation's long civil war—is now controlled by a mafia, the Gulf Clan, which reliably services two sets of transient populations. Tourists come for the picturesque beach, and migrants to stage for the arduous hike into Panama. On holiday weekends, they compete for hotel rooms.

"There were so many of them, they used to put different-colored bracelets on them," says local resident Wilberto Peñaloza, referring to the migrants, not the tourists. Smuggling is a volume business here. Coyotes coordinate to keep their "lines" moving smoothly and last year organized to cut a fresh trail north a safe distance from the route used to traffic narcotics.

Both trails run through the Darién Gap, the forbidding, roadless jungle that separates Central America from South. Walking it takes as long as a week on mud trails over steep hills and across meandering rivers. Hazards include snakes, thieves and being returned by Panama to Capurganá, where the hopeful wait for wire transfers to try again. One piece of graffiti calls the place "purgatory." "Seeing all the migrants, you see all the money," says a former smuggler in Capurganá known as the Horse. He built a house on the profits from the \$40 to \$70 he charged for a day's start into the jungle. Most of his clients were Haitians. "They have an American dream," he says. "It's like a headache they get that won't go away until they get what they're looking for."

Capurganá exists, like "irregular migration" itself, in the twilight between laws as written and reality as lived. Consider Yikalo Gebrekristos, who TIME finds idling outside a Catholic church a block inland. His journey began in Khartoum, the Sudanese capital, which teems with foreigners fleeing other countries in Africa's Horn, including his own nation of Eritrea. The Khartoum police shake down migrants daily. But Gebrekristos opted to put his money into the kind of corruption that would work for him, climbing into one of the late-model cars that double as offices for underground travel agents. There he learned the price for a Sudanese passport—\$3,000—then that of a ticket to Quito. The \$15,000 he had spent when we found him came from relatives, to whom he owed not only cash but possibly his life. "If you have a good family, you go to America," Gebrekristos explains. "If you don't have a good family, you go by Mediterranean Sea"—the route to Europe, which runs through Libya, where African migrants are routinely enslaved or abused for months, if not years, before getting a place on a dangerous boat.

But traveling through the Americas is no snap. Near a poster bidding tourists DARE THE DARIÉN, an Ecuadorian migrant recounted attempting the journey four times with no success, paying \$300,

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WILBERTO PEÑALOZA,
CAPURGANÁ RESIDENT

\$200, \$150 and \$200, only to be sent back. He was about to try yet another coyote. "When the things are legal, you can look into the details," he explains. "But when it's illegal, it's a risk you have to take."

Things are getting tougher. At midday on Dec. 11, TIME found a Bangladeshi man named Kamal Hussein in an abandoned resort, chipping at a coconut with a flimsy knife for a meal. Three weeks earlier he had emerged from the Darién in Panama after losing his money and phone to bandits.

But instead of allowing Hussein to continue north, as they might have done a year ago, Panamanian officials detained him for 14 days, then sent him back to Colombia. These days, the country is overwhelmed by the flow of northbound migrants. "We were receiving 300 or 500 a day," Javier Rudas of the Panama Migration Service tells TIME. He notes that Panama's agreement with Costa Rica allowed it to send only 100 north per day. "So we had a big balloon that kept filling." The cost of maintaining camps to hold the excess thousands was more than what the government wanted to bear. For that reason, many are turned back to Capurganá, to try again.

"At the end of the day, they're understanding it," Rudas says, "and they're looking for new routes. At the end of the day, they get to the United States."

SURE ENOUGH, in Costa Rica, Katia keeps doing business. It's not like a year or two ago, when she might have seen as many as 35 migrants a day. Those were flush times: the U.S. had given temporary protected status to Haitians because of the 2010 earthquake, and took a softer line on Cubans because of Castro. The door closed when the Obama Administration changed the Cuba policy, but the route remains popular, mostly with South Asians. Of the 235 detainees in the Panamanian camp where Hussein was briefly held, 185 were from India.

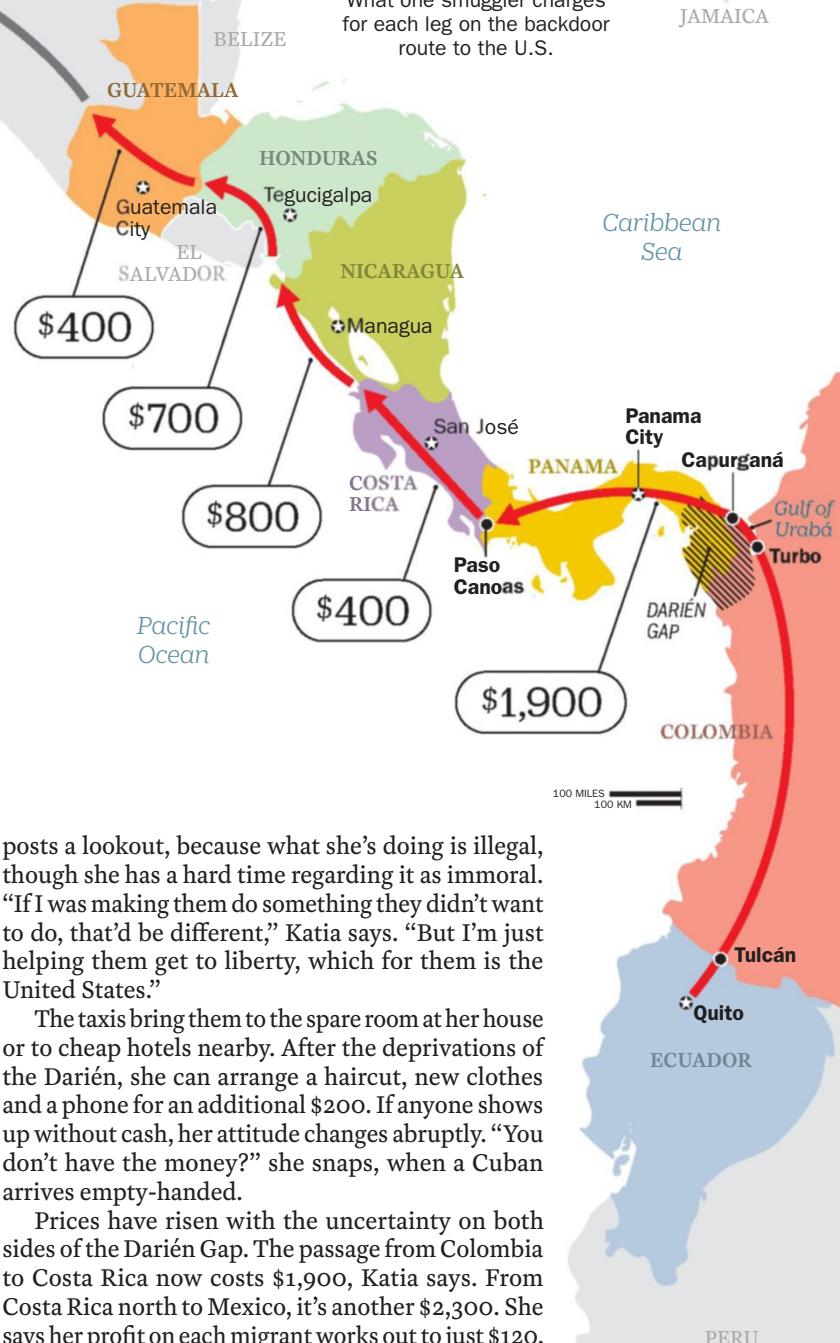
"You try to do excellent work and lower your prices so you can keep business going," Katia says in her bungalow. She snagged the Delhi contact by undercutting his previous Central American smuggler, who charged \$2,700 per migrant. "I'll give you better rates," Katia said, offering \$2,300.

"He gets them from India to Ecuador, and I get them from Ecuador to Mexico," she says, and launches into a description of her enterprise. From Quito, migrants go by bus to Tulcán, the city in Ecuador nearest to the Colombia border. There her contact meets them, and arranges transport north to Capurganá. When they emerge from the Darién, they travel by taxi to Panama City, then are directed to a bus. "There's a compartment in the bus where they hide," Katia says, "and the bus brings them here."

"Here" is the strikingly informal boundary where Panama meets Costa Rica. (In some places, it's simply a median between parallel highways.) Still, she arranges crossings into waiting taxis at 3 a.m. and

TICKET TO THE U.S.

What one smuggler charges for each leg on the backdoor route to the U.S.



posts a lookout, because what she's doing is illegal, though she has a hard time regarding it as immoral. "If I was making them do something they didn't want to do, that'd be different," Katia says. "But I'm just helping them get to liberty, which for them is the United States."

The taxis bring them to the spare room at her house or to cheap hotels nearby. After the deprivations of the Darién, she can arrange a haircut, new clothes and a phone for an additional \$200. If anyone shows up without cash, her attitude changes abruptly. "You don't have the money?" she snaps, when a Cuban arrives empty-handed.

Prices have risen with the uncertainty on both sides of the Darién Gap. The passage from Colombia to Costa Rica now costs \$1,900, Katia says. From Costa Rica north to Mexico, it's another \$2,300. She says her profit on each migrant works out to just \$120, all of which comes out of the \$400 she charges for the Costa Rica leg. The price for the next rungs on the ladder—\$800 for Nicaragua, \$700 for Honduras—are consumed by the cost of drivers, food, shelter and bribes.

“I can’t charge them more, because they’re already crying about the price,” she says, “and if I charge \$100 more per country...” Left unsaid: Someone will undercut her. “I can’t,” she says with a shrug.

The bribes add up. Police staff permanent checkpoints in each country, and at the first one in Costa Rica, the charge is \$35 per migrant, paid to the



officer whom Katia approached through a family member. Travel is timed for his shifts and is highly choreographed: she photographs the license plate of a semitrailer, then texts it to the officer, who orders the truck to stop. While it blocks the view of his colleagues, the car of migrants slips past.

Near the border with Nicaragua to the north, the car detours to the coast, and the migrants then file to a boat that's waiting for dark. It's a three-hour voyage, and Katia says she does not sleep until she gets a call confirming the landing in Nicaragua and transfer to a bus. "Two checkpoints in Nicaragua," she says matter-of-factly. "Forty dollars a person." As they approach Honduras, the migrants set off on foot

for six hours to cross the border through the jungle. If they encounter bandits, it's another \$40 per head to keep moving.

"Honduras is easier," Katia says. "Once they're in Honduras, I relax, because I've been working with the same guy there for 2½ years." The country still offers *salvo conductos*, but getting one can involve spending a week or two in detention, so many migrants pay the coyotes to simply take them to the next country to the north, Guatemala. "The local indigenous people will work with them," she says. "The coyote will write down the license-plate number, send photos of them to the indigenous person who will be along the way, get them off the bus, and put them on the next."



Pakistani and Indian migrants arrive at Capurganá on a smuggler's boat from Turbo, Colombia, on Dec. 8

Same for the cop at the checkpoint. “The coyote goes ahead, pays them off and shows them the pictures of the migrants, so when the cop gets on the bus and sees the people from the photo, he just lets them go,” Katia says. They enter Guatemala by horseback and proceed toward Mexico’s porous southern border. There, those who want to apply for asylum present themselves to the authorities; others find yet another coyote to attempt the U.S. border.

“I’m responsible,” Katia insists, a little proudly. “If something happens, they get robbed, left behind, I’m the one that responds. Other coyotes don’t care, they’ll just take the money and leave them, robbed or whatever.” She flips through her

digital scrapbook to find a woman who arrived in tears. “She had been raped, and had an infection.” A trip to the hospital was arranged. “And this blond woman says she was raped also,” Katia says, a few clicks on. “The coyote in the jungle separated her from the group and told her she couldn’t move forward until she slept with him.”

Such stories are not rare. But researchers say brutalizing the customer does not work as a business model, especially in the age of social media. Katia, like her contact in Delhi, isn’t even a full-time smuggler; each has a day job in transport. That’s both logical and the norm, Reitano of the Global Initiative Against Transnational Organized Crime writes, with co-author Peter Tinti, in *Migrant, Refugee, Smuggler, Savior*. People with routine, intimate knowledge of the mechanics of international travel are best positioned to detect and exploit its gaps.

But heartless scammers keep the popular image alive by swooping into high-profile events, like the 2014 Syrian refugee rush to the Aegean Sea. Reitano says such surges attract opportunists who take migrants’ money and then abscond, as well as organized-crime networks chasing a quick payoff. Most smugglers, however, are in it for the long haul. “The whole system is generally not about getting one payment,” says Reitano. “It’s about getting payments through the years. Nobody wants it to fail … except the receiving states.”

Katia’s monthly income from smuggling averages \$800—the same as from her day job, she says. “They make what everybody else makes,” says Gabriella E. Sanchez, a University of Texas at El Paso assistant professor of security studies, who is building a smuggling research unit for the E.U. “People don’t want to hear that. This notion of organized crime has never been further than the reality of the facilitation we see around the world.”

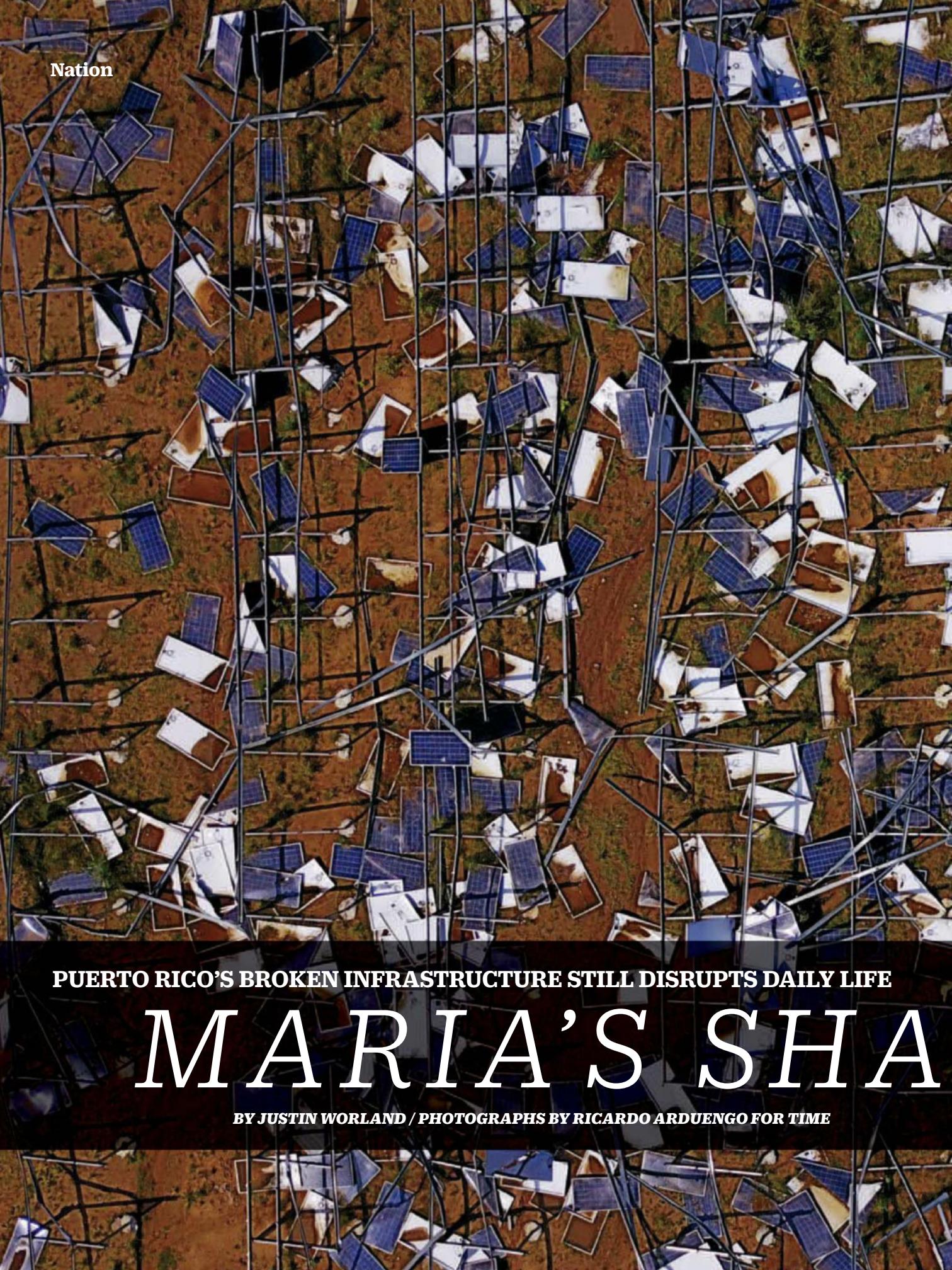
Illusions die hard, though. In her living room, Katia beams while recalling an email from a onetime customer thanking her for helping him get to the U.S., where he opened a pizza parlor. “I feel good, feeling that it hasn’t all been about money,” she says. But that extra \$800 a month let her move into a house she built; it paid for the video console her son toggles from across the room and family trips to a water park. It also explains why she got up in the night to gather the 18 Africans whom her mendacious new drivers had dropped by the side of the road, a five hours’ drive from the border with Nicaragua. Collecting them was the right thing to do, but she also needed the reference.

“Yes,” she says. “They recommend me to their friend!”

A satisfied smile. “Business.”

Poole's reporting was supported by a grant from the International Women's Media Foundation

Nation



PUERTO RICO'S BROKEN INFRASTRUCTURE STILL DISRUPTS DAILY LIFE

MARIA'S SHA

BY JUSTIN WORLAND / PHOTOGRAPHS BY RICARDO ARDUENGO FOR TIME



*Hurricane Maria
shredded solar
panels at a
utility-scale solar
power plant in
Humacao, P.R.*

DOWS

THE TRIP INTO TOWN USED TO BE A quick affair: a hop over a bridge and 15 minutes on the road was all it took for residents of the village of San Lorenzo to reach the more populated town of Morovis to buy groceries or visit a doctor. Like it did in so many places in Puerto Rico, Hurricane Maria changed that when the Category 4 hurricane slammed into the island in September. Not only did the storm—with winds topping 155 m.p.h.—destroy thousands of local homes, it also caused the bridge into town to buckle. All that's left these days are a couple of battered pillars. Now getting to Morovis requires a perilous trek across the river, by an all-wheel-drive vehicle if you're lucky or by wading through deep water. The shortest and safest detour through the nearby hills can take three hours.

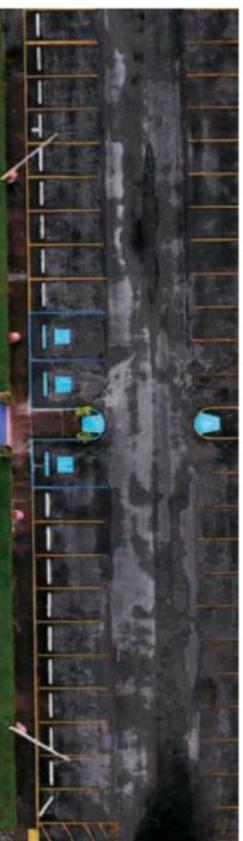
A return to normalcy is nowhere in sight. "If the water rises, they risk their lives or cars to make it to appointments, work, daily errands," says Ricardo Arduengo, a San Juan-based photographer who was born and raised in Puerto Rico. "The bridge was the only way to get where people need to go."

Arduengo used a drone to capture the wreckage that has become a part of daily life in San Lorenzo and similar communities across the island. Shattered solar panels in Humacao, homes draped in blue tarp to replace broken roofs in Loíza and a damaged sports complex in Vega Baja offer glimpses of the slow trod taking place to get Puerto Rico back on its feet. And even in places where roads are operational, like Humacao, traffic lights with faulty electricity still trigger frequent traffic jams. "When you see it from above, it gives you a totally different perspective," says Arduengo, who crisscrossed the island taking photographs before and after the storm.

Rural places like San Lorenzo were especially hard-hit. The storm left



Clockwise from top left: Utility workers replace a power pole in Loíza; a vehicle crosses a waterway where a bridge once stood in the village of San Lorenzo; tarps cover damaged homes in Loíza; a pool is left in disrepair at a sports facility in Vega Baja



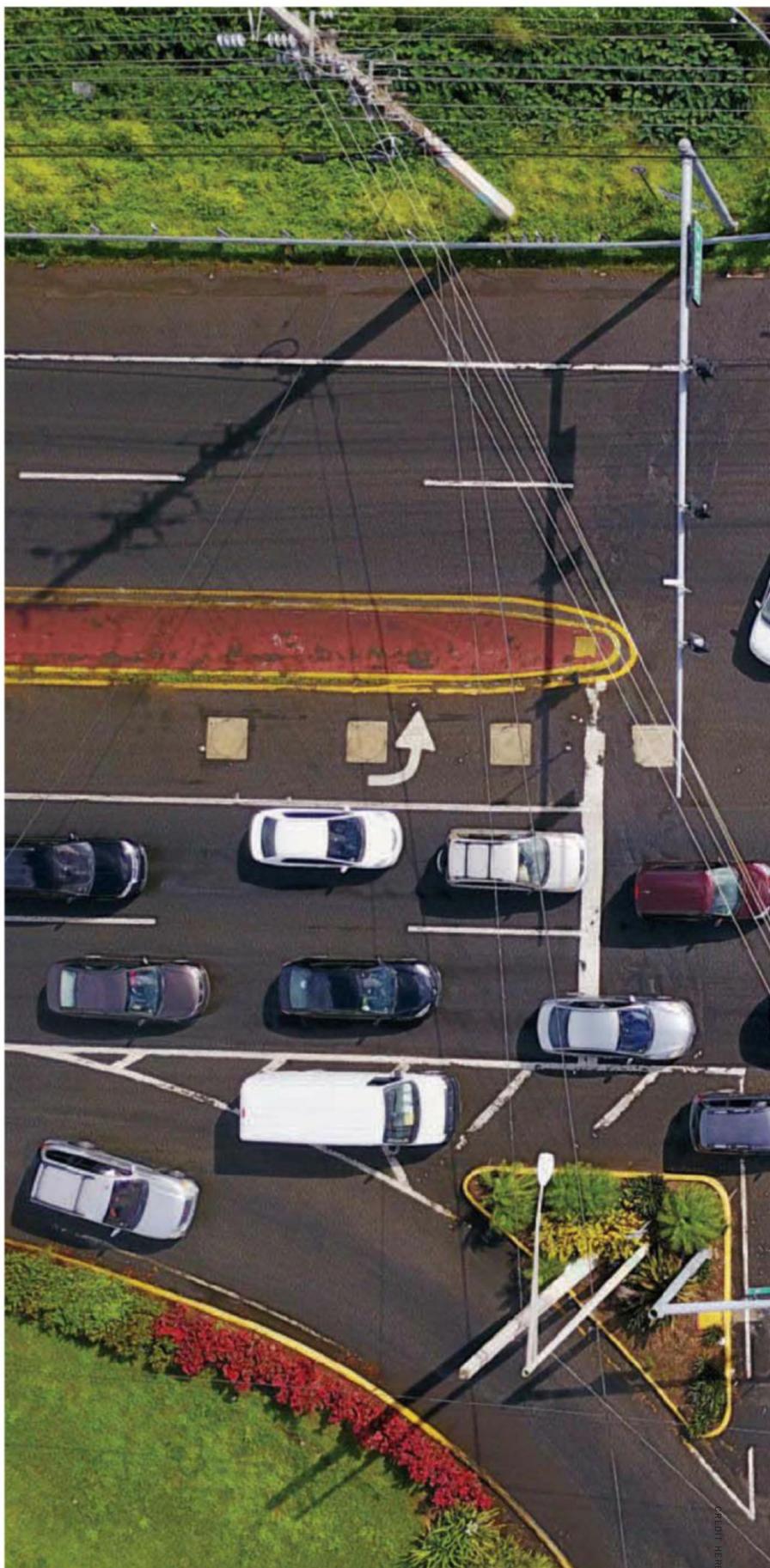
thousands of people homeless, tens of billions of dollars in damage and as many as 9 out of 10 residents without power in its immediate aftermath.

Coming back from that will take years, if not longer. And even then Puerto Rico will face deep challenges. Or as Heidie Calero, a San Juan-based economist, puts it, "We need a strong, resilient infrastructure, we need energy, we need ports, we need water services."

Restoring consistent access to electricity across the island represents the most urgent challenge, with more than 5,500 workers dedicated to bringing back power, many from mainland utility companies. And yet 28% of customers still lack electricity. Those with access to electricity have only that, with the power flickering on and off without warning. In a bid to improve service, Governor Ricardo Rosselló plans to privatize the government-owned and deeply indebted utility company.

A EVEN BIGGER PROBLEM looms. The longer Puerto Rico's basic services remain unreliable, the more likely mass migration becomes. Officials and economists fear that such an event could deplete the island's workforce and further stress social services in communities where migrants settle. Some 50,000 Puerto Ricans have already sought refuge in Florida. The exodus feeds what Calero calls a "circular cycle" of lost income and sales tax leading to bigger budget cuts and further declines to the territory's infrastructure. Puerto Rico owed some \$70 billion to creditors before Maria.

Some relief is coming. President Donald Trump signed a sweeping budget deal on Feb. 9 that includes \$2 billion to fix the electric grid and additional funding for other infrastructure improvements. But even when the power is back and bridges are rebuilt, the scars on the worst-impacted areas will still be visible. "Is Puerto Rico going to recover? Of course," says Calero. "But it's going to take longer than expected." □

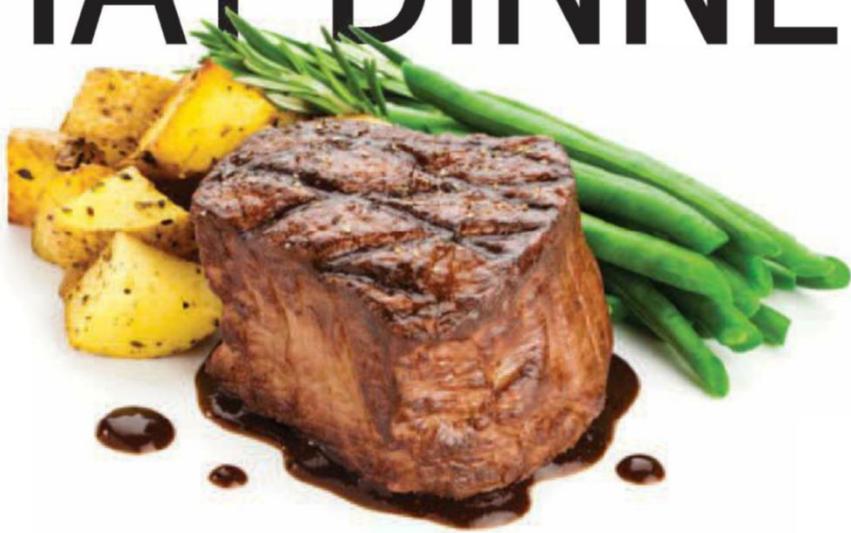


Traffic lights without electricity snarl cars in Humacao. Residents face daily disruptions even where infrastructure remains intact

RICARDO ARDUEÑO



THAT DINNER



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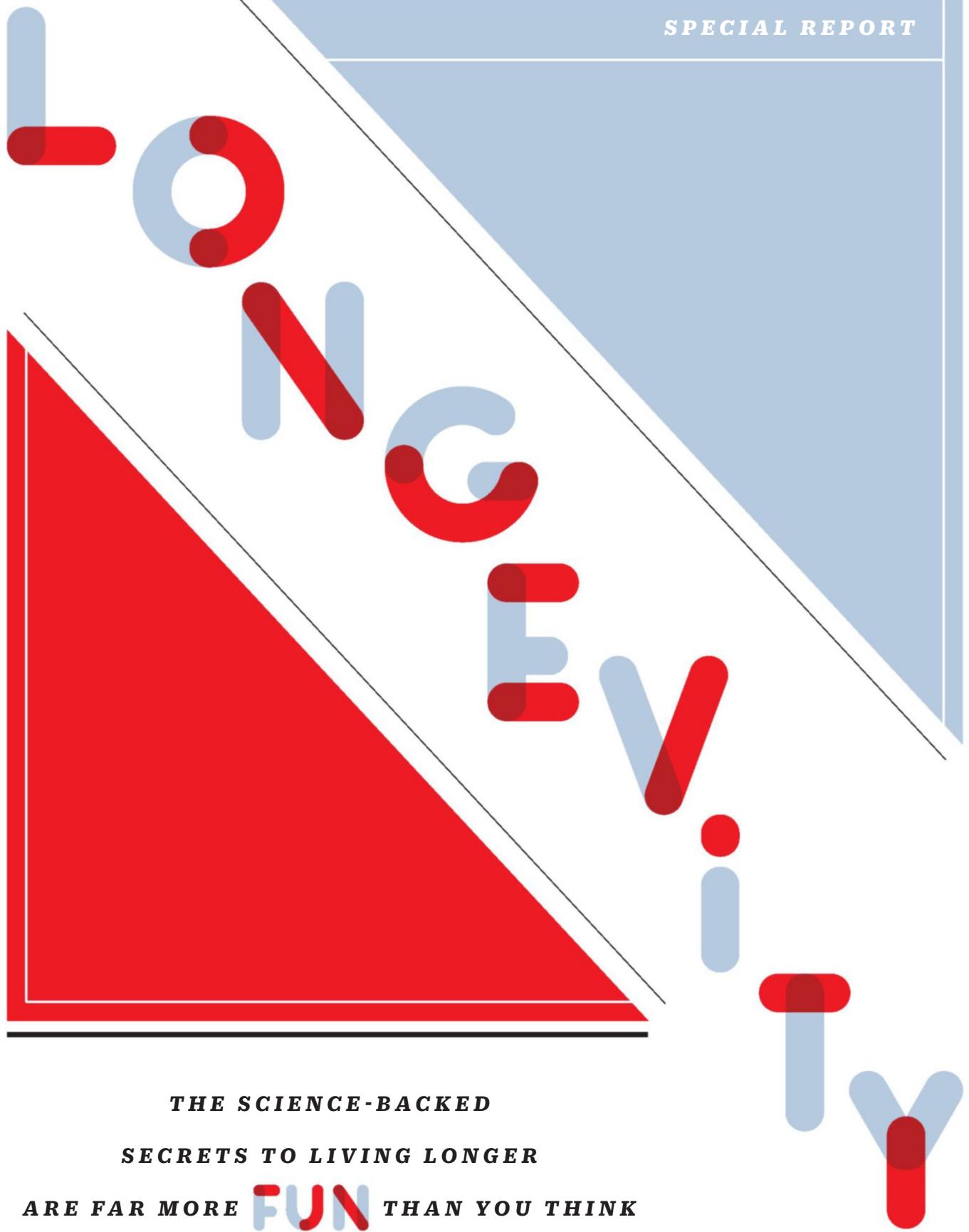
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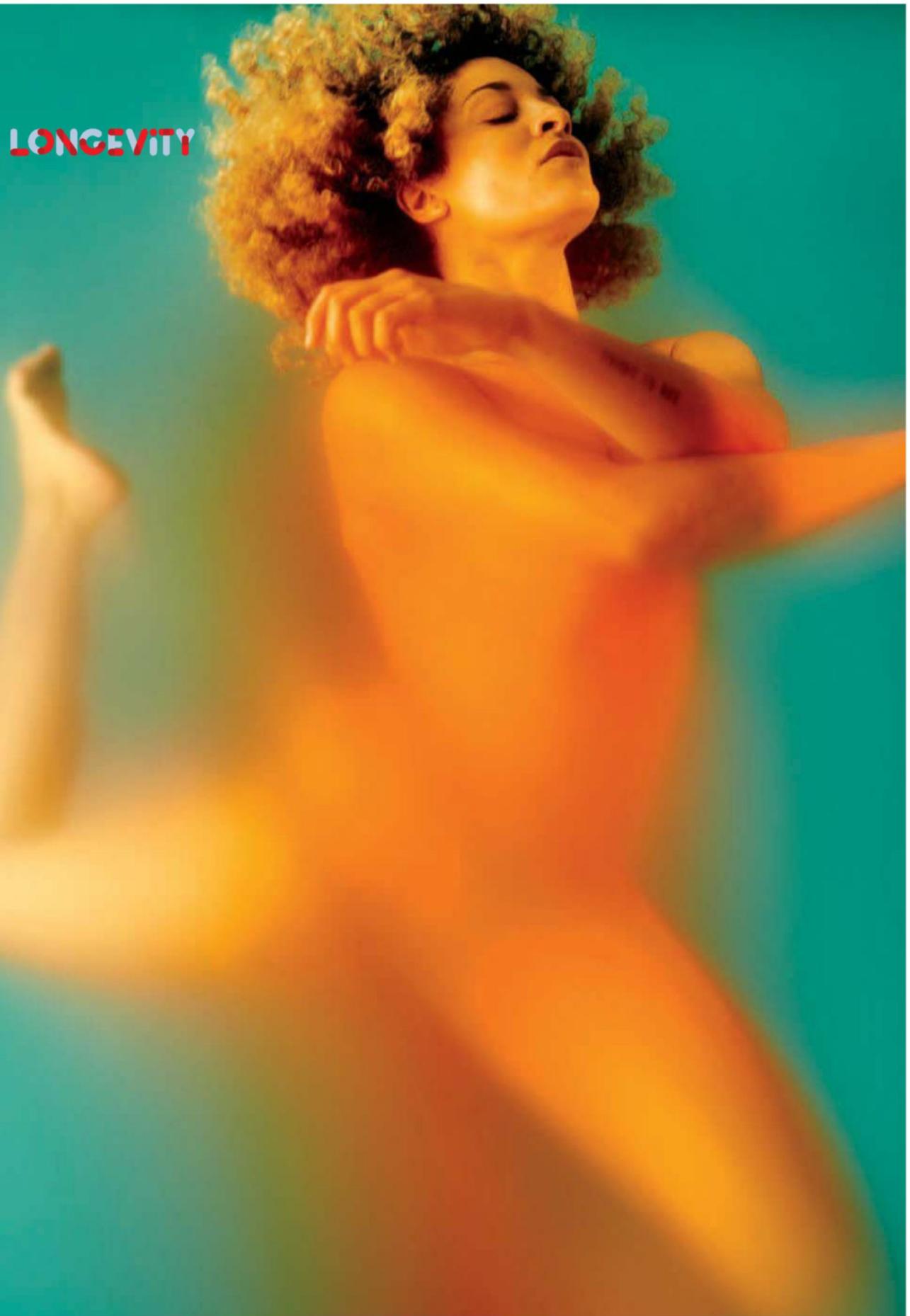
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SPECIAL REPORT



THE SCIENCE-BACKED
SECRETS TO LIVING LONGER
ARE FAR MORE **FUN** THAN YOU THINK

LONGEVITY



HOW TO LIVE LONGER, BETTER*

***(You're still going to die, though)**

**By Jeffrey Kluger
and Alexandra Sifferlin**

Old age demands to be taken very seriously—and it usually gets its way. It's hard to be cavalier about a time of life defined by loss of vigor, increasing frailty, rising disease risk and falling cognitive faculties. Then there's the unavoidable matter of the end of consciousness and the self—death, in other words—that's drawing closer and closer. It's the rare person who can confront the final decline with flippancy or ease. That, as it turns out, might be our first mistake.

Humans are not alone in facing the ultimate reckoning, but we're the only species—as far as we know—who spends its whole life knowing death is coming. A clam dredged from the ocean off Iceland in 2006—and inadvertently killed by the scientists who discovered it—carried growth lines on its shell indicating it had been around since 1499. That was enough time for 185,055 generations of mayfly—which live as little as a day—to come and go. Neither clam nor fly gave a thought to that mortal math.

Humans fall somewhere between those two extremes. Globally, the average life span is 71.4 years; for a few lucky people, it may exceed 100 years. It has never, to science's knowledge, exceeded the 122 years, 164 days lived by Frenchwoman Jeanne Calment, who was born when Ulysses S. Grant was in the White House and died when Bill Clinton lived there.

Most of us would like a little bit of that Calment magic, and we've made at least some progress. Life expectancy in the U.S. exceeds the global average, clocking in at just under 79 years. In 1900, it was just over 47 years. The extra decades came courtesy of just the things you'd expect: vaccines, antibiotics, sanitation and improved detection and treatment of a range of diseases. Advances in genetics and in our understanding of dementia are helping to extend our factory warranties still further.

None of that, however, changes the way we contemplate the end of life—often with anxiety and asceticism, practicing a sort of existential bartering. We can narrow our experiences and give up indulgences in exchange for a more guardedly lived life that might run a little longer.

But what if we could take off some of that bubble wrap? What about living longer and actually having some fun? A Yale University study just this month found that in a group of 4,765 people with an average age of 72, those who carried a gene variant linked to dementia—but also had positive attitudes about aging—were 50% less likely to develop the disorder than people who carried the gene but faced aging with more pessimism or fear.

There may be something to be said then for aging less timidly—as a sort of happy contrarian, arguing when you feel like arguing, playing when you feel like playing. Maybe you want to pass up the quiet of the country for the churn of a city. Maybe you want to drink a little, eat a rich meal, have some sex.

"The most important advice we offer people about longevity is, 'Throw away your lists,'" says



PRO TIP



'After World War II, my entire generation went a bit crazy and wanted to enjoy life. In every garden, every balcony, every restaurant in Italy, you'd see people dancing, for months after the war. I tried to remember that throughout my life: go out and dance.'

CARLA JULLI, 90, Modena, Italy

Howard Friedman, professor of psychology at the University of California, Riverside, and co-author of *The Longevity Project*. “We live in a self-help society full of lists: ‘lose weight, hit the gym.’ So why aren’t we all healthy? People who live a long time can work hard and play hard.” Under the right circumstances, it increasingly seems, so could all of us.

MARIE ASHDOWN, 90, has lived in New York City for nearly 60 years, in an apartment on the east side of Manhattan. New York has beaten down younger people than her, but Ashdown, executive director of the Musicians Emergency Fund, loves city life. “I have a fire in my belly,” she says. “There’s not one minute of the day that I don’t learn.”

As a classical-music connoisseur, Ashdown organizes two concerts a year at Lincoln Center for the Performing Arts. When she’s not working, she takes weekend trips outside of the city, and spends her free time binding old books. Like many New Yorkers several decades her junior, she often orders takeout rather than bother with cooking. “We have the best and worst here,” says Ashdown. “We learn to cope, live on the defensive and conquer fear.”

She’s hardly the only senior who loves city living. In the U.S., 80% of people ages 65 and older are now living in metropolitan areas, and according to the World Health Organization, by 2030, an estimated 60% of all people will live in cities—many of them over age 60. You may lose a little sidewalk speed and have to work harder to get up and down subway stairs, but cities increasingly rank high on both doctors’ and seniors’ lists of the best places to age gracefully.

Every year, the Milken Institute Center for the Future of Aging (CFA) ranks the best metropolitan places for successful aging, and most years, major cities sweep the top 10 spots. No wonder: cities tend to have strong health systems, opportunities for continued learning, widespread public transportation and an abundance of arts and culture. That’s not to say that people can’t feel isolated or lonely in cities, but you can get lonely in a country cottage too. In cities, the cure can be just outside your door.

“We all long to bump into each other,” says Paul Irving, the chairman of the Milken Institute CFA. “The ranges of places where this can happen in cities tend to create more options and opportunities.”

It’s that aspect—the other-people aspect—that may be the particularly challenging for some, especially as we age and families disperse. But there are answers: a 2017 study in the journal *Personal Relationships* found that it can be friends, not family, who matter most. The study looked at 270,000 people in nearly 100 countries and found that while both family and friends are associated with happiness and better health, as people aged, the health link remained



only for people with strong friendships.

“[While] in a lot of ways, relationships with friends had a similar effect as those with family,” says William Chopik, assistant professor of psychology at Michigan State University and the author of the study, “in others, they surpassed them.”

If the primacy of family has been oversold as a key to long life, so has the importance of avoiding conflict or emotional upset. Shouting back at cable news is no way to spend your golden years, but passion, it’s turning out, may be more life-sustaining than apathy, engagement more than indifference.

In a study published by the American Aging Association, researchers analyzed data from the Georgia Centenarian Study, a survey of 285 people who were at least (or nearly) 100 years old, as well as 273 family members and other proxies who provided information about them. The investigators were looking at how the subjects scored on various personality traits, including conscientiousness, extraversion, hostility and neuroticism.

As a group, the centenarians tested lower on neuroticism and higher on competence and extraversion. Their proxies ranked them a bit higher on neuroti-



cism, as well as on hostility. It's impossible to draw a straight line between those strong personality traits and long life, but the authors saw a potential one, citing other studies showing that centenarians rank high on "moral righteousness," which leads to robust temperaments that "may help centenarians adapt well to later life."

At the same time that crankiness, judiciously deployed, can be adaptive, its polar opposite—cheerfulness and optimism—may be less so. Worried people are likelier to be vigilant people, alert to a troubling physical symptom or a loss of some faculty that overly optimistic people might dismiss. Friedman and his collaborator Leslie R. Martin, a professor of psychology at La Sierra University in Riverside, Calif., base their book on work begun in 1921 by Stanford University psychologist Lewis Terman, who recruited 1,500 boys and girls born around 1910 and proposed to follow them throughout their lifetimes and, when he died—which happened in 1956—to have successors continue the work. Friedman and Martin have been two of those successors, and they've learned a lot.

"Our research found that the more cheerful, out-

going children did not, for the most part, live any longer than their more introverted or serious classmates," says Friedman. "Excessively happy people may ignore real threats and fail to take precautions or follow medical advice. It is O.K. to fret—if in a responsible manner."

ONE TIP FOR LONG LIFE that is not coming in for quite so much revisionist thinking is exercise—and some seniors are achieving remarkable things. Take Ginette Bedard, 84, of Howard Beach, N.Y.

It was a drizzly morning last Nov. 5, but that didn't stop Bedard from crossing the New York City Marathon finish line first in her age group. Bedard picked up running decades ago as a way to keep fit, but she didn't run her first marathon until she was 69 years old. "I was watching the marathon runners on TV and I was so envious," she says. "I was thinking, I cannot do that, they are all superhumans."

So she decided to become one of them. She began training daily until she could run the full 26.2 miles, and she's run nearly every New York City Marathon since. "It takes discipline and brainpower and dedication," she says. "The running is hard, but the finish line is euphoria." She now runs three hours every day along the beach.

Few physicians would recommend that all octogenarians pick up a three-hour-a-day running habit, but adding even a small amount of movement to daily life has been repeatedly shown to be beneficial, for a whole range of reasons. "Exercise likely works through several mechanisms," says Dr. Thomas Gill, director of the Yale Program on Aging. "Increasing physical activity will improve endurance; it benefits muscle strength and balance and [reduces] occurrence of serious fall injuries. It also provides a benefit to psychology, by lifting spirits."

Exactly how much—or how little—exercise it takes to begin paying dividends has been one of the happy surprises of longevity research. A 2016 study found that elderly people who exercised for just 15 minutes a day, at an intensity level of a brisk walk, had a 22% lower risk of early death compared to people who did no exercise. A 2017 study found that exercising even just two days a week can lower risk for premature death. Researchers from McMaster University in Canada even found that breaking a sweat for just 60 seconds may be enough to improve health and fitness (as long as it's a tough workout).

Healthy eating is something else that may have a lot more wiggle room than we've assumed, and if there's such a thing as a longevity diet, there may be more on the menu than seniors have been told. "I have my wine and ice cream," says Bedard without apology. Similarly, 90-year-old Ashdown phones her takeout orders into Tal Bagels on First Avenue, not some trendy vegan joint.

"It really is an issue of moderation," says Peter



PRO TIP



I've always moved with the times I'm living in. If I didn't, I don't think I'd be as at home in the world, because everyone is younger than I am. There's a certain quality about aging that is contagious, and I think that I get old when I'm around other people my age.'

BETTY REID SOSKIN,
96, oldest permanent
National Park Service ranger
and author of new memoir *Sign My Name to Freedom*, Richmond, Calif.



PEOPLE WHO LIVE A LONG TIME CAN WORK HARD AND PLAY HARD.

HOWARD FRIEDMAN,
co-author of *The Longevity Project*

Martin, a professor of human development and family studies at Iowa State University, who runs an ongoing study of centenarians. Martin notes that while most centenarians eat different but generally healthy diets, one consistent thing he has picked up from work with his 100-plus crowd is breakfast. “They rarely skip breakfast,” he says. “It’s often at a very specific time, and the routine is important.”

Alcohol has its place too. An August 2017 study published in the *Journal of the American College of Cardiology* found that light to moderate alcohol use (14 or fewer drinks per week for men and seven or fewer for women) is associated with a lower risk of death compared to people who don’t drink at all. If you’re a nondrinker, that’s no reason to start, and if you drink only infrequently, it’s no reason to drink more. Still, among the more than 333,000 people in the study, light and moderate drinkers were 20% less likely to die from any cause during the study period compared with their completely abstemious peers.

There’s also an argument for letting go of diet obsessiveness, especially if you’re at a reasonably healthy weight already. A 2016 study found that

women over age 50 who were categorized as normal weight, but reported fluctuating (dropping more than 10 lb. and gaining it back at least three times) were 3½ times more likely to experience sudden cardiac death than those whose weight stayed the same. The takeaway: simply stay in a healthy range; striving for a smaller size isn’t necessarily doing you any longevity favors.

Finally, as long as seniors are enjoying themselves with some indulgent food and drink, they may as well round out the good-times trifecta with a little sex. It’s no secret that remaining sexually active has been linked to life satisfaction and, in some cases, longer life. One celebrated study, published in the *British Medical Journal* in 1997, followed 918 men in a Welsh town for 10 years and found that those with a higher frequency of orgasm had a 50% reduced risk of mortality. Friedman and his colleagues, working with the Terman group, found something similar—though not quite as dramatic—for women. A 2016 study from Michigan State University was less sanguine, finding that older men who had sex once a week or more were almost twice as likely to suffer a cardiovascular event than men who had less sex; that was especially so if the more active men were satisfied with the sex, which often means they achieved orgasm. For older women, sex seemed to be protective against cardiovascular event.

The problem for the men was likely overexertion, but there are ways around that. “Older adults have to realize that it’s intimacy that’s important,” says Dr. Gary Kennedy, director of geriatric psychiatry at Montefiore Medical Center in New York. “If the focus is on pleasure rather than achieving orgasm each time, it can be fulfilling.”

In this and other dimensions of aging, Kennedy cites pianist Vladimir Horowitz, who died at age 86 and was still performing into his 80s. Conceding the limitations of age, he left the most demanding pieces out of his performances; of those that remained, he would play the slower ones first, making the faster ones seem faster still by comparison. “He would optimize, not maximize,” says Kennedy.

There is an admitted bumper-sticker quality to dictum like that, but compared with the familiar age-related wisdom—take it slow, watch your diet, stay cheerful—it’s bracing. There are, Kennedy says, no truly healthy centenarians; you can’t put 100 points on the board without getting worn out and banged up along the way. But there are independent centenarians and happy centenarians and centenarians who have had a rollicking good ride. The same is true for people who will never reach the 100-year mark but make the very most of the time they do get. The end of life is a nonnegotiable thing. The quality and exact length of that life, however, is something we very much have the power to shape. —With reporting by AMANDA MACMILLAN

Clinical trials are still ongoing to determine if there is an effect on overall survival

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Please see Consumer Brief Summary on following page.

To learn more, talk to your doctor.

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Visit IBRANCE.com

IBRANCE™
palbociclib | 125 mg capsules

*Hormone receptor-positive includes estrogen receptor-positive (ER+) and/or progesterone receptor-positive (PR+)



CONSUMER BRIEF SUMMARY

IBRANCE® (EYE-brans) (palbociclib) Capsules

Read the patient information leaflet before you start taking IBRANCE and each time you get a refill. There may be new information. This information does not take the place of talking to your doctor about your condition or treatment.

What is the most important information I should know about IBRANCE?

IBRANCE may cause serious side effects, including:

Low white blood cell counts (neutropenia). Low white blood cell counts are very common when taking IBRANCE and may cause serious infections that can lead to death. Your healthcare provider should check your white blood cell counts before and during treatment.

If you develop low white blood cell counts during treatment with IBRANCE, your healthcare provider may stop your treatment, decrease your dose, or may tell you to wait to begin your treatment cycle. Tell your healthcare provider right away if you have signs and symptoms of low white blood cell counts or infections such as fever and chills.

See "What are the possible side effects of IBRANCE?" for more information about side effects.

What is IBRANCE?

IBRANCE is a prescription medicine used to treat hormone receptor (HR)-positive, human epidermal growth factor receptor 2 (HER2)-negative breast cancer that has spread to other parts of the body (metastatic) in combination with:

- an aromatase inhibitor as the first hormonal based therapy in women who have gone through menopause, or
- fulvestrant in women with disease progression following hormonal therapy.

It is not known if IBRANCE is safe and effective in children.

What should I tell my healthcare provider before taking IBRANCE?

Before you take IBRANCE, tell your healthcare provider if you:

- have fever, chills, or any other signs or symptoms of infection.
- have liver or kidney problems.
- have any other medical conditions.
- are pregnant, or plan to become pregnant. IBRANCE can harm your unborn baby.
 - Females who are able to become pregnant and who take IBRANCE should use effective birth control during treatment and for at least 3 weeks after stopping IBRANCE.
 - Males who are taking IBRANCE, with female partners who can become pregnant, should use effective birth control during treatment with IBRANCE for 3 months after the final dose of IBRANCE.
- Talk to your healthcare provider about birth control methods that may be right for you during this time.
- If you become pregnant or think you are pregnant, tell your healthcare provider right away.
- are breastfeeding or plan to breastfeed. It is not known if IBRANCE passes into your breast milk. You and your healthcare provider should decide if you will take IBRANCE or breastfeed. You should not do both.

Tell your healthcare provider about all of the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. IBRANCE and other medicines may affect each other causing side effects.

Know the medicines you take. Keep a list of them to show your healthcare provider or pharmacist when you get a new medicine.

How should I take IBRANCE?

- Take IBRANCE exactly as your healthcare provider tells you.
- Take IBRANCE with food.
- Swallow IBRANCE capsules whole. Do not chew, crush or open IBRANCE capsules before swallowing them.
- Do not take any IBRANCE capsules that are broken, cracked, or that look damaged.
- Avoid grapefruit and grapefruit products during treatment with IBRANCE. Grapefruit may increase the amount of IBRANCE in your blood.
- Do not change your dose or stop taking IBRANCE unless your healthcare provider tells you.
- If you miss a dose of IBRANCE or vomit after taking a dose of IBRANCE, do not take another dose on that day. Take your next dose at your regular time.
- If you take too much IBRANCE, call your healthcare provider right away or go to the nearest hospital emergency room.

What are the possible side effects of IBRANCE?

IBRANCE may cause serious side effects. See "What is the most important information I should know about IBRANCE?"

Common side effects of IBRANCE when used with either letrozole or fulvestrant include:

- Low red blood cell counts and low platelet counts are common with IBRANCE. Call your healthcare provider right away if you develop any of these symptoms during treatment:

• dizziness	• bleeding or bruising more easily
• shortness of breath	• nosebleeds
• weakness	
- infections (see "What is the most important information I should know about IBRANCE?")
- tiredness
- nausea
- sore mouth
- abnormalities in liver blood tests
- diarrhea
- hair thinning or hair loss
- vomiting
- rash
- loss of appetite

IBRANCE may cause fertility problems in males. This may affect your ability to father a child. Talk to your healthcare provider if this is a concern for you.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of IBRANCE. For more information, ask your healthcare provider or pharmacist.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

How should I store IBRANCE?

- Store IBRANCE at 68° F to 77° F (20° C to 25° C).

Keep IBRANCE and all medicines out of the reach of children.

General information about the safe and effective use of IBRANCE

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use IBRANCE for a condition for which it was not prescribed. Do not give IBRANCE to other people, even if they have the same symptoms you have. It may harm them.

If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for more information about IBRANCE that is written for health professionals.

For more information, go to www.IBRANCE.com or call 1-800-438-1985.

This brief summary is based on IBRANCE® (palbociclib) Patient Information LAB-0724-3.0, Rev. 3/2017.

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SECRETS OF THE WORLD'S LONGEST-LIVING PEOPLE

Global life expectancy averages out to 71.4 years. That means, of course, that some parts of the world see much shorter life spans, while others enjoy far greater longevity.

Five places, in particular, fall into the latter category. They're known as Blue Zones—named for the blue circles researchers drew to identify the first one on a map—and they're home to some of the oldest and healthiest people in the world. Dan Buettner, author of *The Blue Zones* and *The Blue Zones Solution*, told TIME why residents of these places live so long—and how you can steal their habits.



1 SARDINIA, ITALY

A largely plant-based diet, daily physical activity and familial closeness have given this Blue Zone the highest concentration of male centenarians in the world. (Sheep herders, who tend to walk at least five miles a day, and men with daughters, who may get especially tender care as they age, live even longer than most in this area.) It also doesn't hurt that the M26 marker, a genetic variant linked to extreme longevity, has been passed down through generations in this secluded community.



2 OKINAWA, JAPAN

Many Blue Zones emphasize family and community, but bonding reaches its peak in this Japanese culture. Okinawans are supported by their *moai*, a small but tight-knit social circle meant to be there through all of life's ups and downs, which provides social support strong enough to dull mental stressors and reinforce shared healthy behaviors.

The result? A culture that boasts the longest-living women in the world, with many surpassing 100.



3 NICOYA, COSTA RICA

Most Blue Zone residents avoid processed food, but Nicoyans take it to another level. The Costa Rican people traditionally get the majority of their caloric intake from beans, squash and corn, plus tropical fruits. This plant-forward, nutrient-dense diet—and plenty of time outdoors—makes for strong, well-nourished bodies. Meanwhile, a *plan de vida*, or guiding life purpose, helps Nicoyans stay mentally and spiritually fulfilled to age 90 and beyond.



4 LOMA LINDA, CALIF., USA

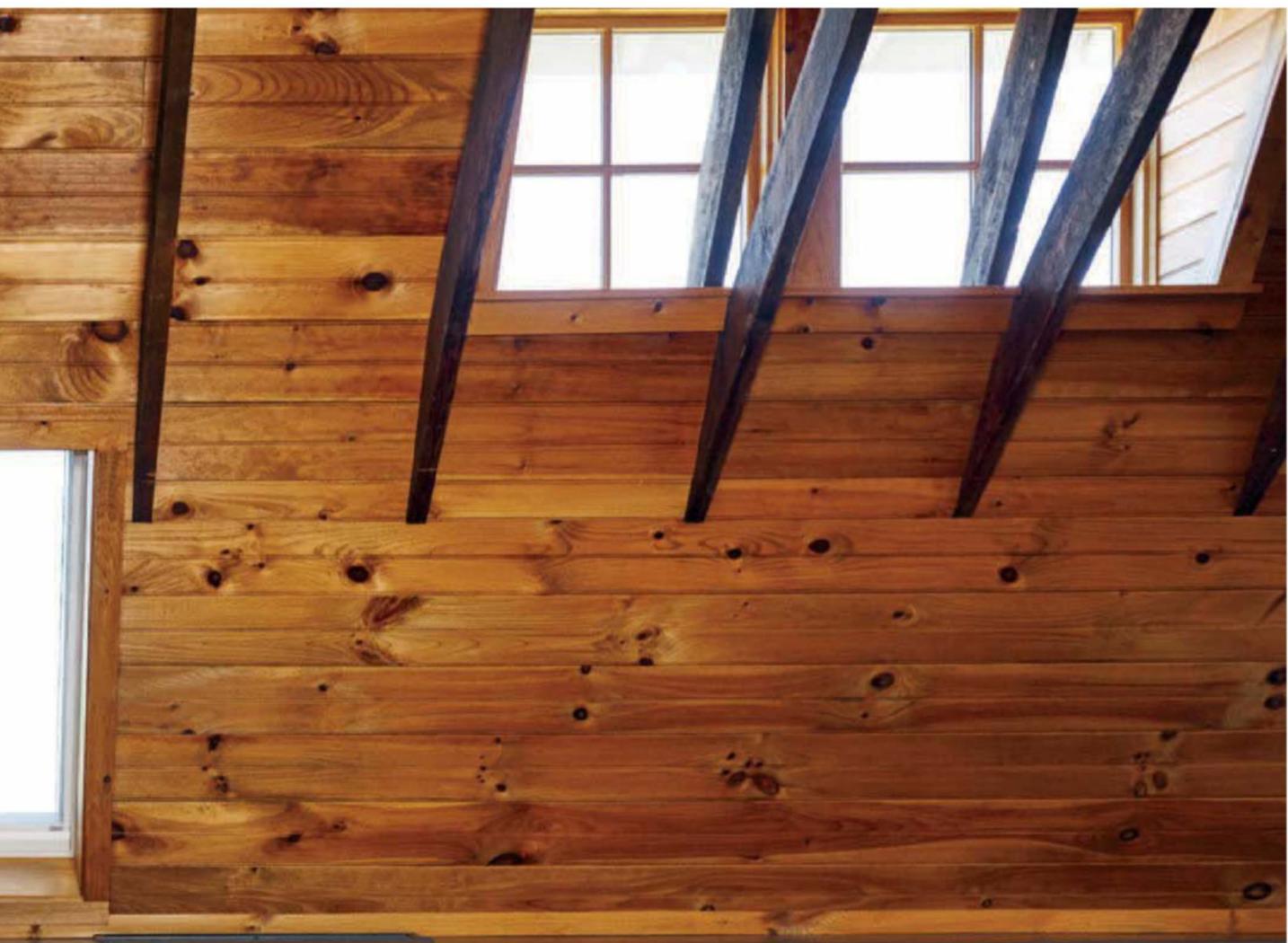
The U.S.'s only Blue Zone is a haven for the Seventh-day Adventist Church, a Protestant denomination. A shared set of principles, emphasis on community and adherence to the Sabbath—a day of rest, reflection and recharging—help Loma Linda Adventists live 10 years longer than their fellow Americans. Many avoid meat and eat plenty of plants, whole grains and nuts.



5 IKARIA, GREECE

A fierce sense of island pride keeps Ikarians invested in their community. That, combined with late bedtimes offset by daily naps and a strict adherence to the Mediterranean diet—eating lots of fruits, vegetables, beans, whole grains, potatoes and olive oil—propels 1 in 3 Ikarians to live into their 90s, often free of dementia and chronic disease.





‘PLEASE BE THE DRUG’

Dozens of dementia treatments have failed. Will this one work?

By Alice Park
Photographs by Tony Luong for TIME

Peter Wooding, 77, hits the local YMCA almost daily in hopes of slowing the progression of his Alzheimer's disease



JoAnn Wooding is staring intently at the clear liquid dripping from a dark brown IV bag into her husband Peter's arm. "Please be the drug, please be the drug," she says. Married for more than 50 years, the Woodings are among the more than 5 million Americans who are facing Alzheimer's disease, one of the most devastating diagnoses today.

But instead of accepting the slow descent into memory loss, confusion and dementia, Peter—who has the disease—could be among the first to successfully stop that decline from happening.

Peter, 77, is one of the 2,700 people around the world who are expected to volunteer to test what researchers believe could be the first drug to halt Alzheimer's. Two-thirds of the volunteers will receive the drug, and one-third will get a placebo. They won't know which one they received until they have participated for 18 months.

While there are genes that contribute to a higher risk of Alzheimer's, for most people, age is the biggest risk factor for the disease. The human brain is remarkably resilient, but only up to a point. With time, connections that normally call up a memory or help remind people where they are start to get weaker. The first symptoms might be as innocuous as forgetting where you left your phone or missing an appointment. In most cases, the first memories to slip away are more recent ones. Slowly, sophisticated tasks such as organizing a trip, paying bills or driving to familiar places become more challenging. Important birthdays and milestones that you have celebrated your entire life start to slip away, and eventually you stop recognizing your loved ones.

Currently, 1 in 10 people in the U.S. over age 65 has Alzheimer's. By 2050, without an effective treatment, 16 million could be affected by the disease. Worldwide, about 50 million people have dementia, most of it due to Alzheimer's, and that number doubles every 20 years.

The memory-robbing brain disorder has proved vexingly hard to treat. Dr. Alois Alzheimer first described the condition in 1906, but in the more than 100 years since, scientists have not been able to develop any effective treatments. Part of the reason has to do with biology; finding and targeting

something in the brain without compromising the delicate network of activities that keep us breathing, thinking and moving every day is a daunting task. Despite the fact that the market for Alzheimer's drugs could reach an estimated \$30 billion in the U.S. alone, drugmakers have already squandered hundreds of millions of dollars, if not billions, in chasing after an effective treatment.

There is also a stigma surrounding the disease. Surveys consistently show that people of all ages are universally afraid of developing the condition, yet with the degenerative brain disorder, unlike conditions such as cancer and heart disease, there is little public discussion about how it transforms not just patients' lives but the lives of their families as well. It was not until 2012 that President Obama created the first national plan to address the disease, which set a goal of finding ways to prevent and treat Alzheimer's by 2025. As a result, funding for Alzheimer's research at the National Institutes of Health, for example, has more than doubled in recent years.

That shift in attention toward Alzheimer's makes researchers hopeful for the first time in decades that they are finally making headway against the disease. The drug Peter is testing is designed to chip away at amyloid, the protein that builds up in the brains of people affected by Alzheimer's, and break down the sticky plaques that may eventually strangle healthy nerve cells and shut down critical circuits for memory, reasoning and organizing. In early studies, aducanumab, as the experimental drug is called, shrank the plaques in the brain, and some people who took it for up to three years showed slower declines in memory and thinking skills on certain mental tests.

The Woodings are hoping that Peter sees the same benefit. Which is why JoAnn is fervently hoping that her husband is one of the fortunate ones receiving the promising medication.

"IT'S HARD TO MEASURE the cumulative effect of losing one's memory," says Peter, reflecting on how his disease has affected his life. "And my memory is not completely gone, by the way. Just certain aspects of it. Retrieval of information is slower, and my reaction time and mental processing time is slower."

Both industrial designers, Peter and JoAnn ran their own design firm for nearly 40 years, creating products for the home and office as well as designing commercial and residential spaces, including converting Union Station in Providence, R.I., into a corporate headquarters. Their home in Massachusetts bears witness to their work, from the prototypes of sleek armchairs and sofas designed for Knoll to the flatware they created for Dansk in their kitchen. Peter also served as president of the Industrial Designers Society of America (IDSA),

**'YOU
COULD
SEE IT
IN THE
SCANS,
THIS
WHITE
CLOUD.'**

PETER WOODING,
participant in a
clinical trial testing a
new Alzheimer's drug



frequently lecturing abroad. And as a faculty member at Rhode Island School of Design, he tackled the issue of designing accessible furniture and appliances for people with disabilities.

But after Peter took a bad fall in the early 2000s, JoAnn began noticing changes in her husband's memory. Never known for his perfect recall, he was having trouble keeping track of deadlines for projects and what was discussed at meetings.

In the spring of 2016, they took advantage of a study in which Medicare covered the cost of brain scans of older people to check for amyloid, the protein that is the hallmark of Alzheimer's. In the scans, it was undeniable—Peter had Alzheimer's.

"It was definitely a big shock," he says. "You could see it in the scans, this white cloud that covered my brain."

Putting his solution-oriented design skills to work, Peter immediately began looking for ways to be proactive about the impending cognitive decline. "What do you do? Do you bundle up and fall through a manhole and lose it forever? No. Beating this thing has become the No. 1 priority for me," he says.

JoAnn read a newspaper article about the new study at Butler Hospital in Providence, where the Woodings lived at the time, and they asked to join. "I felt like it was a responsibility, that if I could participate and contribute, my experience would hopefully lead to some further understanding of this disease and some potential solution," says Peter of his decision to volunteer for the study.

He agreed to receive injections of either the drug or a placebo once a month for a year and a half. After that, he is guaranteed to receive the drug for two more years. It won't be until 2020, when all the people in the study have completed their injections, that the Woodings and their doctor, Stephen Salloway, who is leading the study at Butler, will learn whether he received the drug or a dummy solution.

So far, Peter has received 16 infusions. The Woodings realize that while the odds are better than even that he has been getting the drug that could slow his disease, it's also possible that they have given Alzheimer's more than a year's head start. "I worry that he is getting the placebo," says JoAnn. "I see any change in him as an indication of perhaps that's

Once a month,
Peter drives
with his wife
JoAnn to Butler
Hospital to receive
an infusion

exactly what's happening. Even if he gets the drug 18 months later, he will have lost ground."

"Not if I have anything to say about it," says Peter.

EVEN IF PETER is getting the placebo, the Woodings recognize that they are fortunate to have the opportunity to test a potentially promising drug. Peter is still in the early stages of the disease, when doctors believe they have the strongest chance of at least keeping the changes in his brain from getting worse. And it turns out that the Woodings came to Butler at an opportune time. If his memory problems had shown up even a decade earlier, he would have had a paltry array of options for combatting the disease. There were no treatments then, and there were relatively few promising experimental drugs even being tested to treat Alzheimer's.

In the early 2000s, research in the field had come to a near standstill. Scientists knew that amyloid, a protein made by cells in the brain, seemed to build up abnormally in the brains of people with the disease, eventually strangling nerve cells to death by cutting them off from the essential nutrients they need to survive. A highly vaunted and anticipated trial of a vaccine designed to wipe away amyloid plaques failed to produce much change in the memory and cognitive state of

Peter won't know whether he's getting the drug or a placebo for 18 months; after that he'll have the opportunity to take the real drug, if he's not already on it

the people testing it in a study, and a series of other anti-amyloid drugs also seemed to do little to reverse the overpowering deposits of amyloid.

The company behind the vaccine, Elan Pharmaceuticals, refused to give up, however, and joined with Pfizer and Johnson & Johnson to develop another amyloid fighter, this one an injectable drug. The researchers tested it in people with a genetic mutation that puts them at high risk of developing Alzheimer's. But as with the vaccine, the results were disappointing. In cognitive tests, the people receiving the drug did no better than those getting a placebo.

Recently, Eli Lilly announced underwhelming results of its drug that was supposed to break up

amyloid; no difference was seen between people who received the drug and those who did not on their scores on cognitive tests or their ability to complete daily activities such as balancing a checkbook or keeping track of appointments.

The string of failures was enough to prompt some brain experts to question whether the theory that amyloid plaques cause Alzheimer's was correct. If all the anti-amyloid drugs weren't having an effect on the disease, then maybe amyloid wasn't the right target, they argued.

But there could be other reasons those trials failed. For one, some of the people in the studies showed signs of dementia but may not have had Alzheimer's or amyloid plaques at all. Because it's hard to tell the difference between normal, age-related problems of memory and brain functioning from those caused by the buildup of amyloid, some of the people in the studies of anti-amyloid drugs may not have had amyloid in their brains in the first place. In those cases, it wouldn't be surprising that the drug didn't have an effect on their thinking skills, since the drug would not have been acting on amyloid.

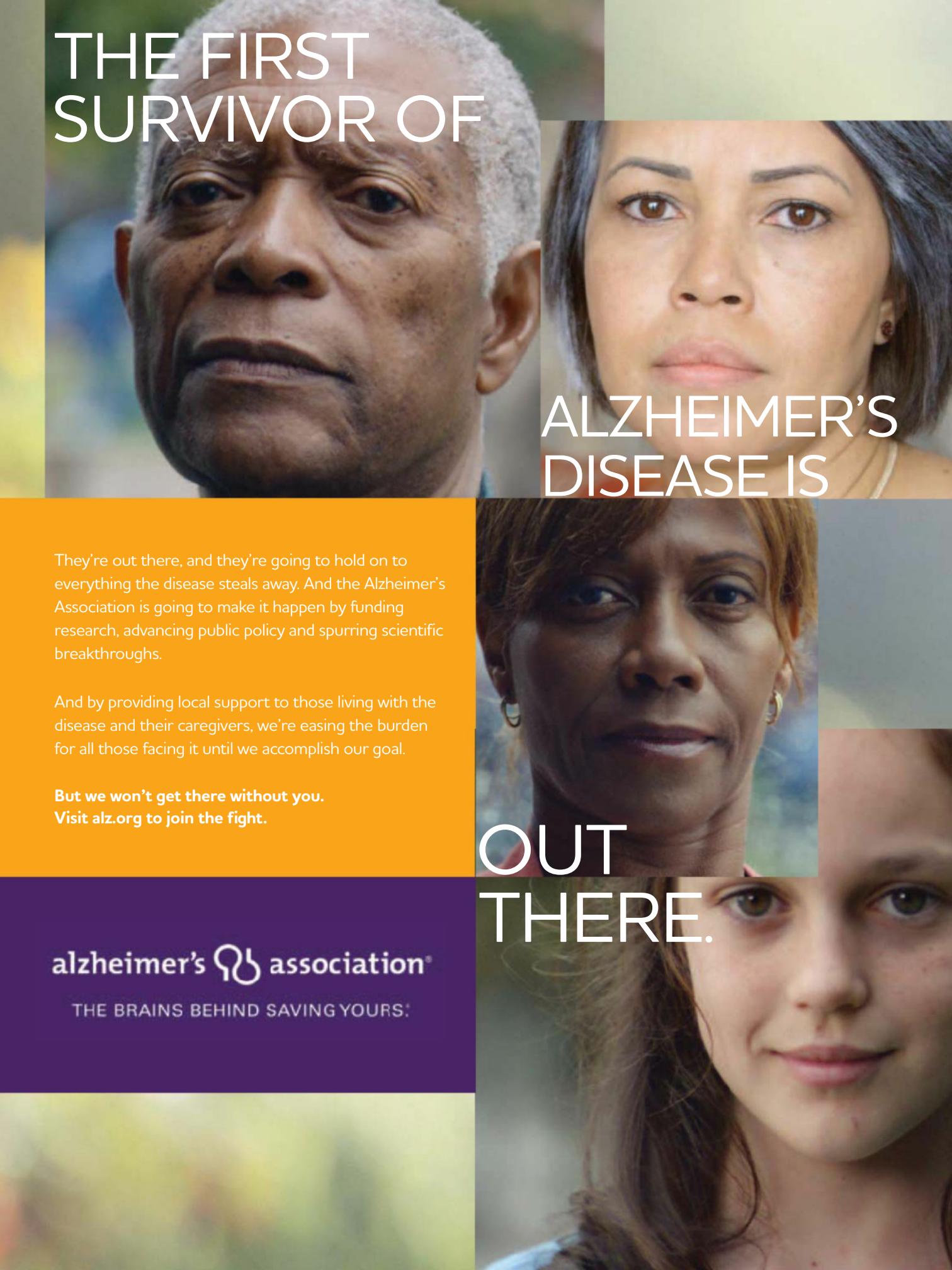
It's also possible that the drugs may simply have been given too late in the disease and in doses that were too low. Because the people in the study had to

have memory problems in order to qualify for an Alzheimer's drug trial, by the time they took the experimental anti-amyloid drugs, there may have been too much amyloid already built up in their brains, making it hard for the drugs to dissolve it. It would have been like trying to melt an iceberg with a hair dryer; the burden of plaques was too overwhelming.

Finally, and perhaps most important for the development of new drugs, scientists now know that while autopsy studies have showed that amyloid plaques are a common feature of people with Alzheimer's, not everyone with amyloid deposits in the brain necessarily develops the disease. Some people have a natural ability to keep the plaques from



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— J. Fitzgerald, VA



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sleep. Our chair's recline technology allows you to pause the chair in an infinite number of positions, including the Trendelenburg position and the zero gravity position where your body experiences a minimum of internal and external stresses. You'll love the other benefits, too: It helps with correct spinal alignment, promotes back pressure relief, and encourages better posture to prevent back and muscle pain.



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building up or are able to make less amyloid, so the protein doesn't aggregate into toxic clumps.

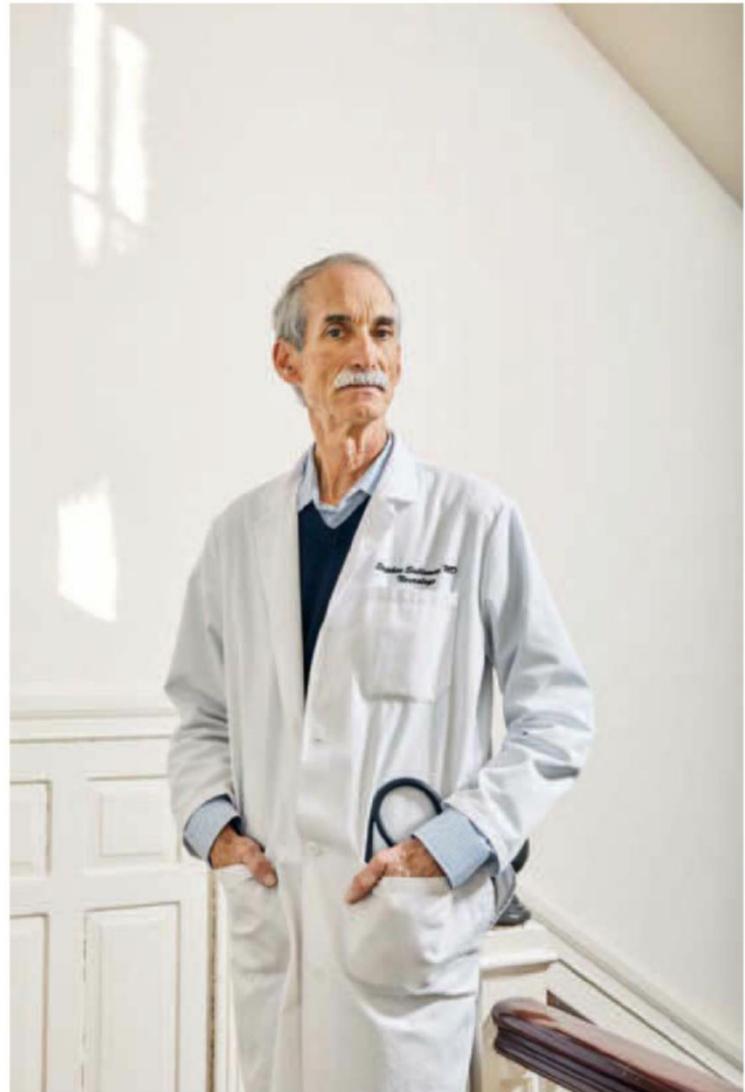
In fact, studying those people led to the drug that Peter is testing. Developed by Biogen and Neurim-mune, it came from older people who either did not develop Alzheimer's or showed much slower rates of cognitive decline than average Alzheimer's patients did. "Something was retarding the Alzheimer's or protecting against Alzheimer's in these older people," says Salloway, the Woodings' doctor and the director of neurology and the Memory and Aging Program at Butler. In a lab, that something was turned into aducanumab.

That provenance means there is a stronger chance that the same natural process helping those people could help others slow Alzheimer's as well. The drug is also unique among the amyloid busters that came before. Amyloid starts out not as a sticky wad of gumlike protein but as thin strands that float in the spinal fluid and blood. Earlier amyloid drugs were designed to attach and remove these fibrils, so some Alzheimer's experts believe that these drugs didn't translate into changes in people's memory or cognitive function because while the smaller circulating pieces of amyloid were eliminated, the larger plaques remained intact. Once these amyloid aggregates reach critical mass, they trigger another toxic process known as tau tangles. Tau is another protein that attaches leechlike onto the long arms of nerves, destabilizing them until they shrivel up into a tangled mess. If the nerves are no longer aligned properly and communicating with one another, they die. In the same way that a home ravaged by fire generally can't be saved, even if drugs can destroy the new, circulating forms of amyloid, if enough amyloid plaques and tau tangles have already formed, the damage to the nerve cells and their connections can't be reversed.

To avoid that problem, aducanumab is designed to be more aggressive in attacking the established plaques of amyloid. That may prove more practical, since by the time people complain of memory problems and Alzheimer's symptoms, they likely already have significant amounts of plaques in their brains. "This is the first amyloid-based treatment to show this degree of amyloid lowering," says Salloway.

And it's not just the drugs that are getting better. Since 2011, researchers have had a way to see the amyloid in the live brain, something they could do before only in an autopsy. Peter received an amyloid PET scan of his brain before beginning the study and continues to get scans periodically. His doctors can not only verify that his brain contains the plaques but also track changes in their size to learn whether the drug he is testing is shrinking them or not.

Doctors don't expect aducanumab to reverse damage already caused by Alzheimer's, but if it is the first to stop the disease from progressing, that



would be a huge step toward controlling it. "We don't need a home run," says Dr. Pierre Tariot, director of the Banner Alzheimer's Institute and a professor of psychiatry at the University of Arizona. "If we can get some traction and slow the train down, that would be a tremendous therapeutic victory, even if we don't completely stop the train in its tracks."

For the Woodings, that would indeed be a victory. As part of the study, they learned that Peter, like 25% of people around the world, carries one copy of the APOE4 gene, so what is happening in his brain is in part genetic. His DNA doubles or triples his risk of developing Alzheimer's, compared with someone without the same gene. (People with two copies of APOE4 have a risk of developing the disease eight to 12 times as great as those with other versions of APOE.) Two years ago, he and JoAnn

▲ **Stephen Salloway**, director of neurology and the Memory and Aging Program at Butler, is Peter's doctor and leads the new study at Butler

**I WANT
TO KEEP
PETER AS
PETER
FOR AS
LONG AS
POSSIBLE.**

JOANN WOODING,
industrial designer
and Peter's wife
of 54 years

stepped away from day-to-day responsibilities at their design business, essentially turning it over to their son Rob. While Peter still drives, he says it's getting more challenging to navigate. "I had an excellent sense of direction when driving," he says. "That has gone away now. I'm less skillful in that." JoAnn won't let him drive unless she's also in the car with him, in case he gets lost.

She has also seen other signs of Peter's forgetfulness, which has rearranged their lives in ways they never anticipated. Now, says JoAnn, "if I have to go to have my hair cut, Peter goes with me. And if he goes to have his hair cut, I go with him. We're together 24/7, and we go everywhere together, with few exceptions."

Last year, when he was still driving alone, JoAnn waited for Peter to return from a trip to the gym so she could use the car for an appointment. Peter didn't get home on time, and JoAnn had to call a cab. She learned later that he was buying her a Valentine's Day card—having forgotten that they had already purchased cards the day before.

WHETHER OR NOT the drug Peter is testing is successful, researchers are convinced that it could be an important part of the Alzheimer's arsenal in the coming years. They are pursuing two new strategies for halting the disease: introducing treatments like aducanumab earlier, before the amyloid plaques and the tau tangles damage nerve cells, and combining various strategies to increase their chances of success.

Starting people on Alzheimer's treatments earlier in their disease is something that has become possible only in recent years, since doctors can now see, with the latest brain-imaging scans, the first signs of amyloid building in the brain. "Nerve cells are not easy to resuscitate or restore or reinvigorate," says Salloway. "So we've got to try to catch it early—before there is a lot of memory loss and decline in functioning."

They are learning from their colleagues in cancer and HIV who have successfully combined so-so drugs to get a more sustained effect, and they are encouraged by the potential power in combining different Alzheimer's drugs. That means every drug like aducanumab counts. "The hope is that if we combine treatments, we may see the kind of boost in efficacy that we all hope to see one day," says Dr. James Hendrix, director of global science initiatives at the Alzheimer's Association. "I think the best promise for the future is in combinations of drugs."

There's an urgency to fulfill that promise, as the number of people hitting their 70s and 80s, when Alzheimer's is most likely to develop, is starting to balloon. And making sure that the aging population doesn't become an Alzheimer's population isn't



just about finding the right medicines to treat the disease. It's also about making sure that people are doing what they can to keep their brains healthy and active in the decades leading up to older age—by getting regular exercise, remaining socially active and engaging their brain in new activities. In studies, for example, people like Peter who carry one of the high-risk genes for Alzheimer's but exercise regularly show more activity in their brain than people with the gene who don't exercise as much.

Peter is doing his part. He and JoAnn visit the local YMCA almost every day and spend about an



◀ Research suggests that fruits and vegetables—a centerpiece of the Mediterranean diet, which Peter follows—can reduce inflammation in the body and brain

hour circuit training and using the stationary bikes and treadmills. They are also sticking with their Mediterranean diet, which is heavy on the fruits and vegetables that can keep down inflammation, one of the potential triggers of amyloid buildup. Peter also tries to play computer brain games as often as he can and reads voraciously.

His long-term memory is still intact, and he is able to remember the names of people he met on long-ago trips he made while president of the IDSA. It's the short-term memory that seems to slip away more quickly. "I want to keep Peter as Peter for as long as possible," JoAnn says.

Time has become precious for them, and their bond has become stronger as they adjust to a new life with Peter's Alzheimer's. Since his drawing skills are intact, JoAnn is encouraging her husband to go back to painting. They are optimistic that their decision to join the study will not only help people who are affected by the disease in the future but might benefit Peter as well. "Realistically, I know that there hasn't been a lot of data on a cure," says Peter. "So that's what we're waiting for hopefully—a cure. Let's end Alzheimer's." Says JoAnn: "What is the point of living if you don't have hope? Hope is everything. So we continue to hope." □

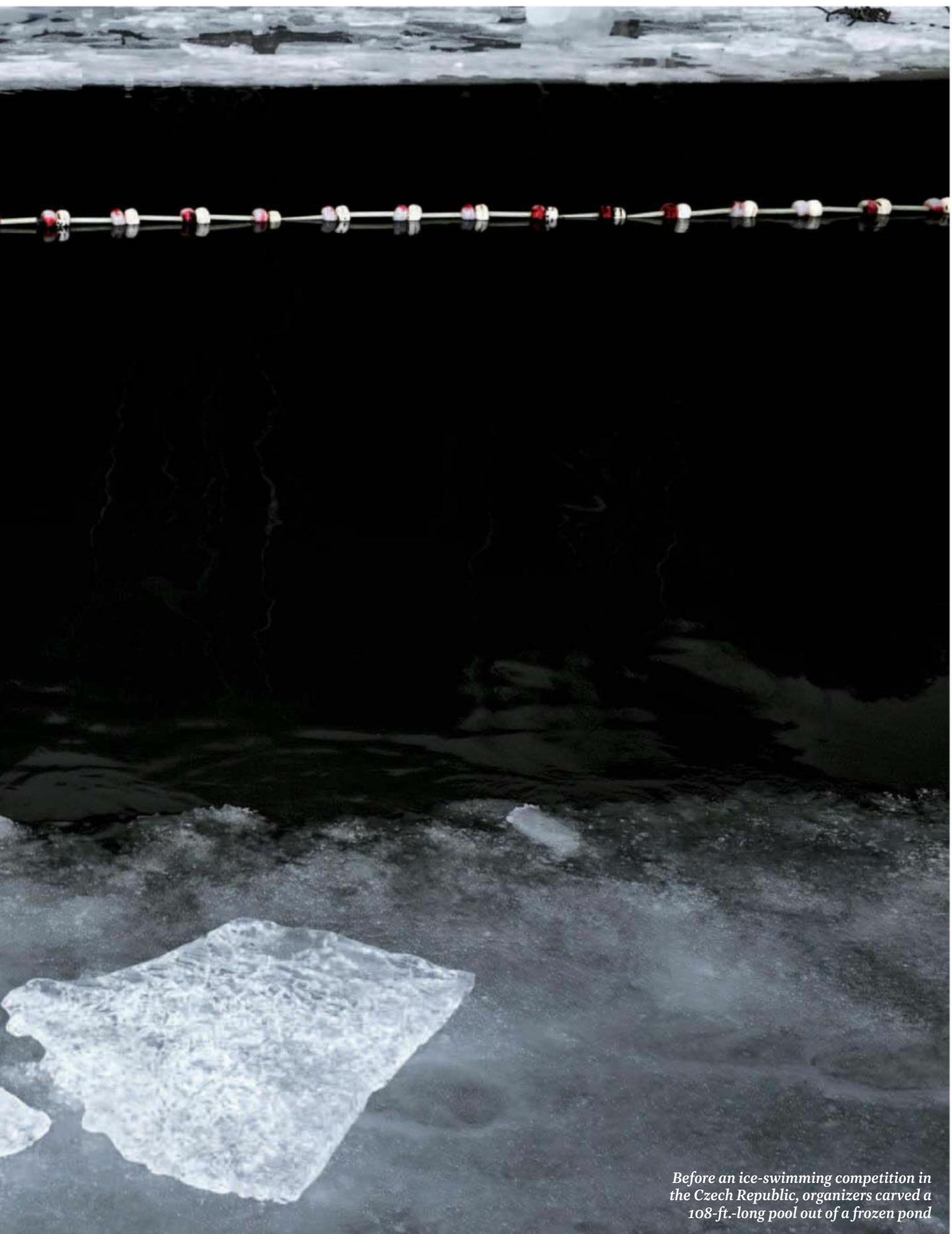


LONGEVITY

TAKING THE PLUNGE

People are swimming in frigid water for fun—and for health

Photographs by Radek Kalhous



Before an ice-swimming competition in the Czech Republic, organizers carved a 108-ft.-long pool out of a frozen pond



After dunking in extreme temperatures, swimmers often need help getting into their clothes; it's not uncommon for them to temporarily lose sensitivity all over their body

For more photos, visit time.com/coldwater

Forget dipping your toe in the deep end. In countries around the world, intrepid swimmers of all ages plunge into ice-cold waters for a thrill that can feel as sharp as daggers—and bragging rights that last all winter.

Welcome to the fun and frigid world of cold-water swimming. The hobby is nothing new. It's been around for centuries in chilly climes such as Russia and Finland, and people have been crossing the notoriously frosty, 21-mile-long English Channel without wet suits since at least the 1800s. The Coney Island Polar Bear Club hosted its first U.S. ocean dip in 1903. And while polar plunges have become relatively common, some of these swims are not for the faint of heart. Only 11 people in recorded history, for example, have completed the so-called Ice Zero: a mile-long swim in freezing water, held in places such as Antarctica, Russia and Northern Europe.



Communal cold-water plunges are a great way to build camaraderie—and chase better health. Jitka Tauferova, 76, belongs to a swimming club in the Czech Republic (as does everyone photographed on these pages). She says she has not gotten sick since she began cold-water swimming. “The last time I had flu was 25 years ago,” she says. “My back pain disappeared. Better blood circulation improves healing broken bones, and my heart is like a hammer. I feel great.”

She and like-minded swimmers may be onto something. Research has shown that swimming—the kind done in normal-temperature water, at least—is one of the best full-body workouts. It’s also ideal for older people and those with pain; swimming is not a weight-bearing activity, but it still delivers all the benefits of traditional aerobics, from strengthening the heart to brightening mood.

Scant research has explored the practice of swimming in cold water, but there is some evidence that it invigorates the body in unique ways. In a

February case report published in the *BMJ*, a young man desperate for relief from chronic nerve pain went for a minute-long swim in chilly 51°F water. His pain immediately vanished—and didn’t return. “When I came out of the water, I realized the neuropathic pain had gone away,” he told researchers, who believe the shock of cold water could have somehow disrupted pain patterns in his body. “I couldn’t believe it.” Another study, in 2008, suggested that taking cold showers could ease depression symptoms and pain, possibly by raising levels of mood-regulating and painkilling chemicals in the blood and brain.

‘YOU DIVE INTO THE ICE, AND IT FEELS LIKE YOU’RE JUMPING INTO FIRE.’

RAM BARKAI, co-founder of the International Ice Swimming Association

A small 2011 study also found that when soccer players immersed themselves in cold water for five minutes after a game, they reported less fatigue and recovered better in the following days than athletes who didn't take a cold plunge.

Of course, diving into frosty water comes with some real health risks too. When you enter very cold water, stress-hormone production increases and blood pressure rises, says Dr. Philip Green, a cardiologist at NewYork-Presbyterian Hospital. In healthy people, these stress responses rarely pose a threat, and they're responsible for the punchy thrill you get when you take a cold plunge. But in people who have a diagnosed or underlying heart condition, they can lead to dangerous cardiovascular problems, Green says.

Even for healthy people, extreme cold can be treacherous, says Robert Coker, a professor of biology, clinical nutrition and exercise physiology at the University of Alaska Fairbanks and a faculty member at the Institute of Arctic Biology. "It really has a dramatic physiological impact on you, if you're not used to it," Coker says. "When you fall in the water and it's freezing, the first thing you do is kind of take a big gasp of air, and that causes you to hyperventilate. Your heart rate goes up."

There's also the risk of hypothermia, which can set in after 15 to 30 minutes in freezing water, Coker says. Loss of consciousness, disorientation and a drop in muscle function of up to 25% can occur even before that. "That could be the difference in being able to get yourself back up over the ice or not," Coker says.

For these reasons, cold-water swimmers typically acclimate to the extreme temperatures by training in progressively chillier waters. Ice-swimming competitions are also often time-limited to protect against hypothermia.

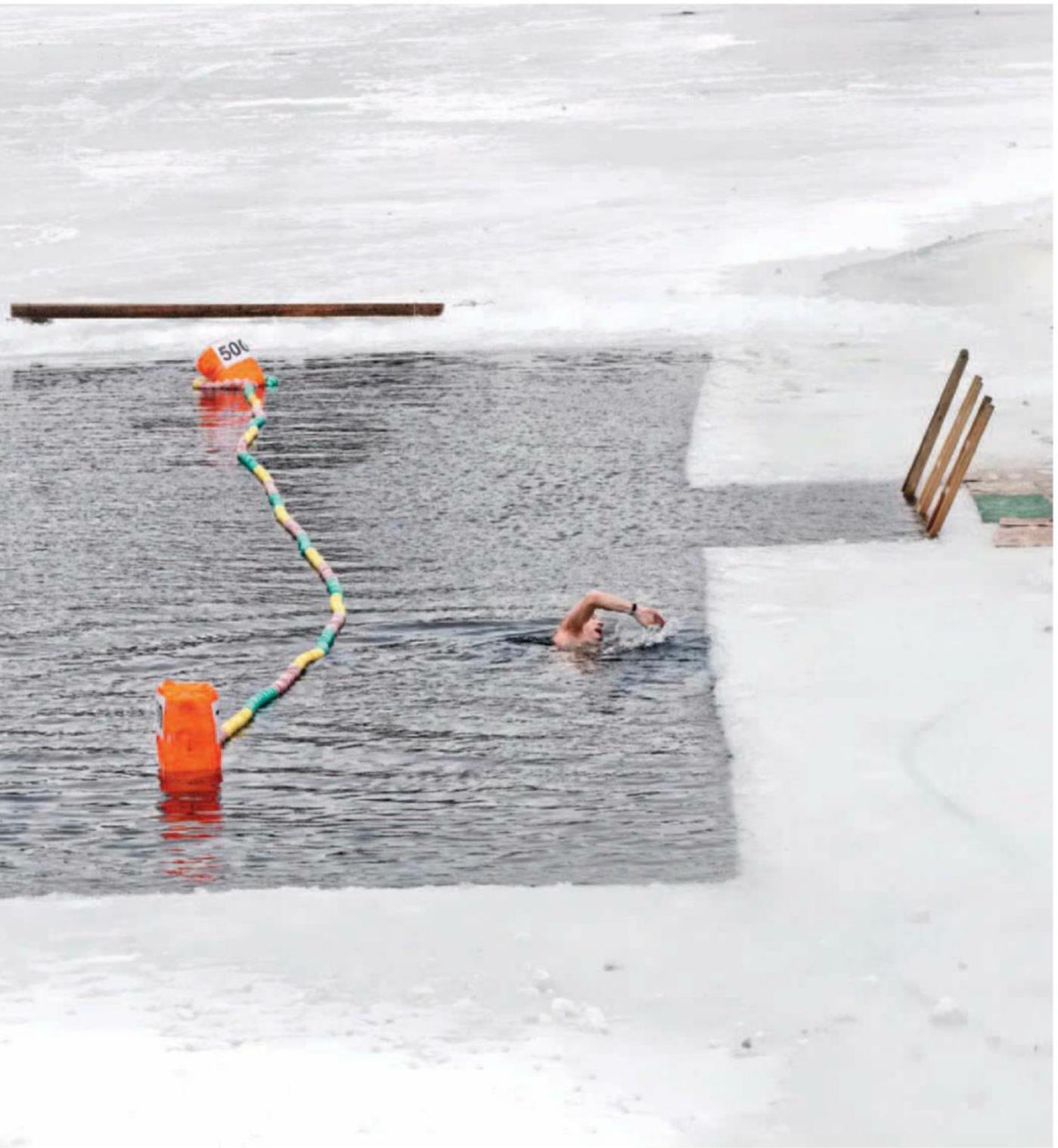
THE DANGERS aren't enough to scare away people who love the adrenaline rush—including Ram Barkai, 60, who in 2009 co-founded the International Ice Swimming Association and is campaigning to get the sport into the Olympics. "It's a sea of paradox: you dive into the ice, and it feels like you're jumping into fire," Barkai says. "It is beautiful, but deadly. It is hard and debilitating, but invigorating."

Although Barkai must travel to places like Russia and Antarctica to swim in ice—his native South Africa is too temperate—he swims in cold water regularly. The high, he says, is enough to make him endure hazards like biting his frozen tongue or losing finger sensation for months at a time.

"You feel alive," Barkai says. "Everything feels great. You feel healthy. And you didn't have to take any drugs or drink a bottle of whiskey."

—JAMIE DUCHARME,
with reporting by Kate Samuelson





Even in 14°F weather, people plunge into the Tichá Orlice River in the Czech Republic; in competitions, people stand by to remove small pieces of ice that form on the water's surface every few minutes



A group of ice swimmers are sitting in the snow, laughing and smiling. They are wearing swimwear and some have snow on their skin. A man in the background is wearing a blue and white striped beanie.

Ice swimmers often finish their meet-ups by rolling in the snow—then warming up together by a stove

YOU ASKED

IS AN ANTI-AGING PILL ON THE HORIZON?

ANTI-AGING PRODUCTS FROM SKIN CREAMS TO chemical peels are part of a \$250 billion industry, but scientists have yet to discover a longevity elixir that stands up to medical scrutiny. A group of researchers believe they're getting closer, however, thanks to a compound called nicotinamide adenine dinucleotide, or NAD+ for short.

"NAD+ is the closest we've gotten to a fountain of youth," says David Sinclair, co-director of the Paul F. Glenn Center for the Biology of Aging at Harvard Medical School. "It's one of the most important molecules for life to exist, and without it, you're dead in 30 seconds."

NAD+ is a molecule found in all living cells and is critical for regulating cellular aging and maintaining proper function of the whole body. Levels of NAD+ in people and animals diminish significantly over time, and researchers have found that re-upping NAD+ in older mice causes them to look and act younger, as well as live longer than expected. In a March 2017 study published in the journal *Science*, Sinclair and his colleagues put drops of a compound known to raise levels of NAD+ into the water for a group of mice.

Within a couple hours, the NAD+ levels in the mice had risen significantly. In about a week, signs of aging in the tissue and muscles of the older mice reversed to the point that researchers could no longer tell the difference between the tissues of a 2-year-old mouse and those of a 4-month-old one.

NOW SCIENTISTS ARE TRYING to achieve similar results in humans. A randomized control trial (considered the gold standard of scientific research) from a different group of researchers published November 2017 in the journal *Nature* found that people who took a daily supplement containing NAD+ precursors had a substantial, sustained increase in their NAD+ levels over a two-month period.

Sinclair takes an NAD+ upper daily. Anecdotally, he says he doesn't experience hangovers or jet lag like he used to, he talks faster,



PRO TIP



I drink half a can of Diet Coke every day and pour the rest down the sink. I figure, I'm 104 years old, I can eat what I want.

THERESA ROWLEY,
104; former
brass polisher;
Grand Rapids, Mich.



and feels sharper and younger. His father takes it too: "He's 78, and used to act like Eeyore," says Sinclair. "Now he's going on six-day hikes and traveling around the world."

"I'm not saying we've proven it works," Sinclair adds. "But I can say that if it's going to work, I hope to be the one to prove it."

He has competition. Sinclair plans to take his NAD+ research through the U.S. Food and Drug Administration (FDA) approval process and eventually create a pill that could be prescribed by a doctor or purchased over the counter, but another company, called Elysium, is already selling a supplement called Basis that contains compounds known to boost NAD+ levels. (Basis is the supplement tested in the 2017 *Nature* study.) Leonard Guarente, Elysium's chief scientist and co-founder—who also directs the Glenn Center for Biology of Aging Research at MIT—says Basis is not intended to extend people's life spans, but to help them stay healthier for longer.

Eight Nobel laureates are on the company's scientific advisory board. "I don't really mind how long I live provided the life is as good as it is now," says board member Sir Richard Roberts, winner of the 1993 Nobel Prize in Physiology or Medicine (who is 74). "The only difference I've noticed is that the skin on my elbows is smoother than it used to be. Whether it's Basis or something else, I have no idea."

By bringing Basis to market as a supplement, and not a drug, Elysium is not required to undergo years of clinical research and FDA approval processes. That decision, and the support of prominent scientists, has stoked criticism from some medical-community experts who wonder why Nobel laureates would attach their names to a supplement without much human research behind it. Elysium declined to confirm if the scientific advisory board members are paid.

Although Basis is already available for purchase, Elysium is currently conducting clinical trials of the supplement. This research, plus that of Sinclair and others, may finally reveal whether NAD+ is the health-extending compound they hope it is.

— ALEXANDRA SIFFERLIN

DO RELIGIOUS PEOPLE LIVE LONGER?

IF A LONG LIFE IS WHAT YOU'RE AFTER, GOING to church may be the answer to your prayers.

A number of studies have shown associations between attending religious services and living a long time. One of the most comprehensive, published in *JAMA Internal Medicine* in 2016, found that women who went to any kind of religious service more than once a week had a 33% lower chance than their secular peers of dying during the 16-year study-follow-up period. Another study, published last year in *PLOS One*, found that regular service attendance was linked to reductions in the body's stress responses and even in mortality—so much so that worshippers were 55% less likely to die during the up to 18-year follow-up period than people who didn't frequent the temple, church or mosque.

You don't have to become a nun to get these health benefits, however. The simple act of congregating with a like-minded community might deserve much of the credit. Tyler VanderWeele, one of the authors of the *JAMA* study and a professor of epidemiology at the Harvard T.H. Chan School of Public Health, says factors related to churchgoing—like having a network of social support, an optimistic attitude, better self-control and a sense of purpose in life—may account for the long-life benefits seen in his study and others.

INDEED, IT'S ALSO THE VALUES drawn from religious tradition—such as “respect, compassion, gratitude, charity, humility, harmony, meditation and preservation of health”—that seem to predict longevity, not the dogma preached at the altar, says Howard Friedman, a professor of psychology at the University of California, Riverside, and co-author of the book *The Longevity Project*.

Fostering these qualities may even affect rates of chronic disease, says Marino Bruce, a co-author

of the *PLOS One* study and a research associate professor of medicine, health and society at Vanderbilt University. “Having that sense that you’re not in the world alone, that you are part of a power larger than oneself, can give one confidence to deal with the issues of life,” Bruce says. “Biologically, if that reduces stress, then that means you’re less likely to have high blood pressure or diabetes or things that can increase mortality.”

But what if organized religion isn’t your style? Can solo prayer—or even a more abstract sense of faith or spirituality—provide the same payoff?

It’s difficult to say with certainty, because going to church is easier to measure than the intimate, individual way a person might practice religion. And the research on praying has been mixed. Some studies have found that prayer can improve disease outcomes and prolong survival, while others have been less conclusive. One 2006 study published in the *American Heart Journal* even found that people who knew they were being prayed for before undergoing heart surgery were more likely to experience complications than people who didn’t know whether they were in others’ prayers.

BUT PRAYER HAS BEEN SHOWN to be powerful, in at least one way. It triggers the relaxation response, a state of mind-body rest that has been shown to decrease stress, heart rate and blood pressure; alleviate chronic disease symptoms; and even change gene expression. This state is typically linked to activities like meditation and yoga, and research suggests it can also be found through praying.

Given that uncertainty and the accumulating evidence supporting communal religious participation, VanderWeele says solitary practitioners might want to consider congregating every once in a while.

“Might you be missing out on something—the power of religion and spirituality—by not participating communally?” VanderWeele says. “That’s not saying, ‘You should have religious beliefs to live longer.’ That’s saying, ‘You already hold these beliefs. Maybe it would be worthwhile to consider communal participation.’”

—JAMIE DUCHARME



PRO TIP



‘Everything seems to be in that prayer that Jesus taught us: “Lead us not into temptation.” During the generation that I lived in, a lot of people had the habit of smoking cigarettes, but I didn’t smoke. Moderation is the way to enjoy things.

One pie can feed 16 people.’

JOE BARRECA,
95, former
bankruptcy lawyer,
Seattle



IS A PIG-ORGAN TRANSPLANT IN MY FUTURE?

MAKING HUMAN TISSUE IN A LAB HAS ALWAYS been more sci-fi than sci-fact, but powerful genetic technologies may change that soon.

For the most part, the only way to replace diseased or failing hearts, lungs, kidneys and livers is with donor organs. Even then, many people struggle to find a good biological match with a donor, and 8,000 die each year in the U.S. while waiting for an organ.

In one promising solution to the shortage, researchers have been putting a new DNA editing tool called CRISPR through rigorous tests in organ regeneration. Last August, a group of scientists led by George Church, professor of genetics at Harvard Medical School, generated more than a dozen pigs that were bred without certain viruses that had made many of their organs unusable for human transplant. Pig genomes often contain genes for viruses that can cause infection and, if they spread to certain tissues, even cancer.

Church used CRISPR to snip out these viral genes from the pig DNA. While there are other ways to edit DNA, CRISPR, developed in 2012, is by far the most precise set of molecular tools to cut, paste, copy and move genes around.

In order to ensure that all the tissues in the pigs were free of the viruses, Church and his team used a cloning technique to create embryos from the edited cells. Of 37 pigs that were born, 15 survived, and none showed genetic signs of the viruses.

Church anticipates that pig-to-human organ transplant clinical trials could happen in as little as two years, which would help address the organ shortage that keeps more than 110,000 people on the transplant list each year. Currently, heart valves from pigs are used to replace diseased or damaged ones from people, but doctors are studying ways that other tissues, like those from the kidney, liver, lungs or pancreas, may be safely transplanted.

Animal-to-human exchanges of tissues, or xenotransplants, could solve serious medical conditions, but they're controversial. Medically, doctors don't know whether viruses or other microbes that are common among animals could spread to people via the transplants, despite their best efforts to control them. Morally, creating animals solely for the purpose of using their tissues, even to help treat human disease, raises ethical concerns for some.

LOOKING AHEAD, scientists see a universe of possibilities for how CRISPR might be used to create organs. At the Salk Institute in La Jolla, Calif., researchers are exploring ways to grow human organs in pigs, by eliminating pig genes and inserting human ones. In 2017, they made the first human-pig chimera by introducing human stem cells into early pig embryos. Such strategies could provide a new source of human tissues and organs.

While such advances in xenotransplants may be discomfiting to some, it's not as Frankensteinian as it seems. In addition to receiving valves from pig hearts, which happen to be compatible in size to human ones, burn patients also get temporary skin grafts from pigs.

For Church, who created the company eGenesis to further develop the technique, stripping away viral genes is just the start. He bets that CRISPR will be useful in eliminating other parts of porcine DNA that make pig tissues incompatible with humans. He believes genetic editing could lead to organs that are such a good biological match that people would not need to take the anti-rejection drugs that can cause so many side effects. If that's possible, then transplanting tissues could also become a way to prevent some of the most common diseases. "Cells and organs that are resistant to cancers, pathogens and senescence could be better in a preventive sense than the normal human organs that are being replaced," Church says.

—ALICE PARK, with reporting by Alexandra Sifferlin



PRO TIP



I spent 13 years at Sears repairing TV sets, so I'm fairly technical-minded, and I keep up with all the latest tech. I have an iPad, iPhone, a Kobo eReader and whatever's computerized. I try to repair anything on my own using YouTube.'

WILLIAM GORDON STANDING, 96; Canadian Royal Air Force veteran and former Sears employee; Carleton Place, Ontario





HOW DO I MAKE PEACE WITH DYING?

DEATH, IN THE VIEW OF MANY THEORISTS, IS A good thing, at least for a society that aspires to be creative. When you're on the clock, you accomplish more. Cultural anthropologist Ernest Becker, author of *The Denial of Death*, called mortality "a mainspring of human activity." If you want to invent a light bulb or paint a *Mona Lisa*, you'd best get started, because checkout time is coming.

That's perfectly fine when you're contemplating the human species as a whole, but our personal mortality is a different matter, right? Not always. A 2017 study in *Psychological Science* tallied the number of positive and negative words in blog posts written by the terminally ill and compared them with essays by people who were asked to imagine being near death and then write about it. The dying people, it turned out, were more positive.

People are able to come to terms with death as they age, thanks to what psychologists building on Becker's work dubbed Terror Management Theory. Equal parts denial and self-soothing, courage and fatalism, TMT is what kept Cold War Americans going despite fear of nuclear annihilation, and got New Yorkers out to work on that Sept. 12 following the terrorist attack.

Some TMT techniques involve what psychologists call constructive distraction: busying ourselves with a lifetime of meaningful things. When faced with acute reminders of death—say, a funeral—we push back with something that prolongs life, like going for a run. We also become good at flippancy, making death benign or

comical—think Halloween costumes.

We get better at this as we age. A 2000 meta-analysis found that fear of death grows in the first half of life, but by the time we hit the 61-to-87 age group, it recedes to a stable, manageable level.

TERROR MANAGEMENT happens not just individually but collectively, through our affiliation with social systems that define us, especially religion, nation and family. Religion is the most direct, because so many faiths sidestep fear of death by promising eternal life. But along with nation and family, religion provides something subtler too: a community that gives a kind of constitutional order to a cosmos that otherwise makes no sense.

"Death is typically on the fringes of our awareness," says Thomas Pyszczynski, a professor of psychology at the University of Colorado at Colorado Springs. "When reminded of their mortality, people cling to their worldviews more and react more warmly to people and ideas that comfort them."

A post-9/11 study in the journal *Identity* by psychologist Curtis Dunkel of Western Illinois University supports this idea. He found that people who have established an "identity commitment," or an allegiance to a group or worldview, exhibit less anxiety when reminded of death than people still engaging in "identity exploration."

The risk of such an allegiance is that it may make us less tolerant of other people. That may partly explain why we have religions that promise eternal life, but only for members of the faith.

Meanwhile, the ability to live in the moment is something that brings older people a sense of calm. "The elderly become more present-centered," says Steve Taylor, a lecturer in psychology at Leeds Beckett University in Leeds, England, "and research shows that being present-centered leads to enhanced well-being."

Most important is what developmental psychologist Erik Erikson dubbed generativity—the process not of achieving and keeping things, but giving them away. You can't take the house you built or the songs you wrote with you, to say nothing of the family you created. They are all your body of work, your mortal oeuvre, and there can be joy in handing them on.

"The idea of one generation replacing the next becomes a buffer against anxiety," says Pyszczynski. If there's peace to be had at the approach of death, it comes from knowing that the world you're exiting is at least a bit richer than the one you found when you arrived.

—JEFFREY KLUGER



PRO TIP



'Before my wife died of a stroke at 70, I worried about dying. You sort of figure, well, maybe I'll be different, I'll live forever. But that won't happen. The thing is, I don't mind going now because she's gone, and I'll be with her then. She is the most wonderful person I ever met.'

GEORGE HARDY,
92; Tuskegee
airman and pilot
during World War II,
Korea and Vietnam;
Sarasota, Fla.

WHAT CAN WE LEARN FROM AMISH PEOPLE?

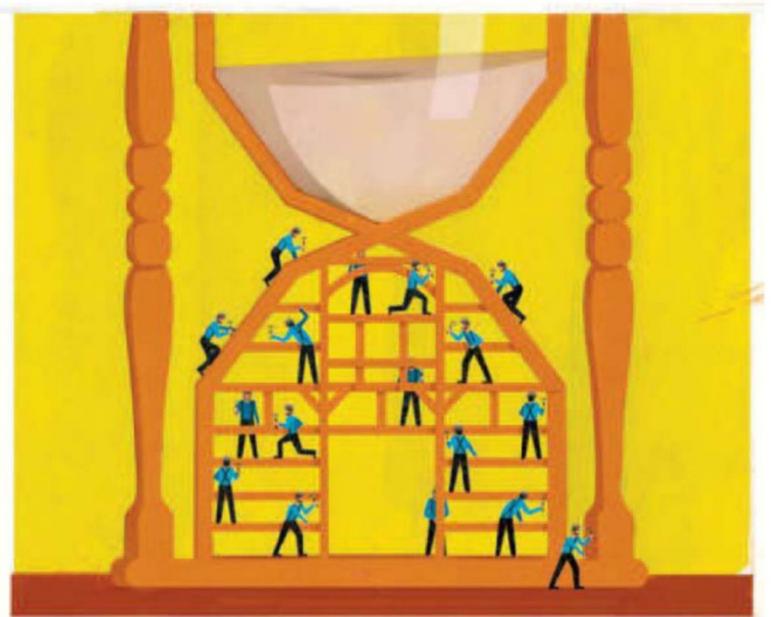
MANY PEOPLE THINK OF THE AMISH AS LIVING without. These devout communities, predominantly located in Pennsylvania, Ohio and Indiana, go without cars, TVs, computers, phones or even the electricity needed to run so much of 21st century gadgetry. But what researchers who have studied them have found is what the Amish have a surplus of: good health in late life. The average American life expectancy is currently just under 79 years. Back in 1900, it was only 47, but for early-20th century Amish it was already greater than 70. Over the decades, most Americans have caught up in overall life expectancy, but the Amish still have a significant edge in late-life health, with lower rates of cancer, cardiovascular disease, diabetes and more. So how do they do it?

Start with lifestyle. Amish communities are agrarian, with no modern farm equipment, meaning all the work has to be done by hand. In 2004, the American College of Sports Medicine fitted Amish volunteers with pedometers to determine how much physical activity they performed. The results were dramatic. Amish men took 18,425 steps a day and women 14,196 steps, compared with non-Amish people who are encouraged by doctors to shoot for at least 10,000 steps—and typically fail. Including other forms of manual labor—lifting, chopping, sowing, planting—the Amish are six times as active as a random sample of people from 12 countries.

One result of this is that only about 4% of Amish people are obese, compared with 36.5% of the overall U.S. population. Amish children are about one-third as likely as non-Amish to be obese, according to a 2012 study in *PLOS One*. This means 50% lower rates of Type 2 diabetes.

The near absence of tobacco in the Amish community—some men do smoke cigars—results in a 63% lower rate of tobacco-related cancers, according to a 2004 study of Ohio's Amish population. The Amish also had rates of all cancers that were 40% lower than the rest of the Ohio population.

Cardiovascular disease is one area in which the Amish don't have an edge, with blood-pressure and heart-disease rates slightly higher than those of other populations. Some of this might be attributable to the Amish diet, which is heavy on pancakes, eggs and sausage for breakfast; and meat, potatoes, gravy and bread for dinner. Working the farm can burn off those calories, but all the fat and salt and carbs still take a toll.



THE MOST POWERFUL WEAPON in the Amish long-life arsenal, however, may be genes. The Amish population in the U.S. is about 318,000, descended from just 200 families that immigrated in the 1700s. They mostly marry within their own communities, which means the genes that existed when their ancestors got to America have remained. That can be a dangerous thing if bad genes are hidden in the mix but a good thing if the genes are sound. While no community is without genetic problems, the Amish seem to have gotten a lucky draw.

In a study released last November, researchers at Northwestern University announced the discovery of a gene in an Amish community that seemed to be associated with an average life span 10% longer than that of people without the gene. The long-lived subjects also had 10% longer telomeres—the caps at the end of chromosomes that shorten over time and drive the aging process. The gene, known as PAI-1, is linked not only to slower aging but also to better insulin levels and better blood pressure and arterial flexibility.

Not all Amish have the PAI-1 mutation; it has been found so far in just one community in Indiana. But those who do carry it have an additional edge over and above the one they have simply from being born Amish.

While much of the Amish advantage is unique to the Amish themselves, there is one long-life lesson they can teach everyone else. Almost all elderly people in the Amish community are cared for at home, by relatives. This isn't always realistic or possible in the non-Amish world, but when it is, it pays huge health dividends. The *PLOS One* study estimated that aging in place has the same longevity benefits as quitting smoking. In all communities, it seems, the power of family may trump the power of medicine.

—JEFFREY KLUGER



PRO TIP



'Not by design, but by necessity, I grew up eating an awful lot of vegetables, because I grew up on a farm during the Depression. You learned to eat collard greens, spinach and lettuce. We didn't have a nickel for a box of matches, but we still kept olive oil in our house.'

JOHN TSITOURAS, 92, former engineer, Las Vegas



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- **Ketoacidosis** occurred in people with type 1 and type 2 diabetes during treatment with FARXIGA. Ketoacidosis is a serious condition which may require hospitalization and may lead to death. Symptoms may include nausea, tiredness, vomiting, trouble breathing, and abdominal pain. If you get any of these symptoms, stop taking FARXIGA and call your healthcare provider right away. If possible, check for ketones in your urine or blood, even if your blood sugar is less than 250 mg/dL
- **Kidney problems.** Sudden kidney injury occurred in people taking FARXIGA. Talk to your doctor right away if you reduce the amount you eat or drink, or if you lose liquids; for example, from vomiting, diarrhea, or excessive heat exposure
- **Serious urinary tract infections (UTI),** some that lead to hospitalization, occurred in people taking FARXIGA. Tell your doctor if you have any signs or symptoms of UTI including a burning feeling when passing urine, a need to urinate often, the need to urinate right away, pain in the lower part of your stomach (pelvis), or blood in the urine with or without fever, back pain, nausea, or vomiting

• **Low blood sugar (hypoglycemia)** can occur if you take FARXIGA with another medicine that can cause low blood sugar, such as sulfonylureas or insulin. Symptoms of low blood sugar include shaking, sweating, fast heartbeat, dizziness, hunger, headache, and irritability. Follow your healthcare provider's instructions for treating low blood sugar

• **Vaginal yeast infections** in women who take FARXIGA. Talk to your healthcare provider if you experience vaginal odor, white or yellowish vaginal discharge (discharge may be lumpy or look like cottage cheese), or vaginal itching

• **Yeast infection of skin around the penis (balanitis)** in men who take FARXIGA. Talk to your healthcare provider if you experience redness, itching, or swelling of the penis; rash of the penis; foul smelling discharge from the penis; or pain in the skin around penis. Certain uncircumcised men may have swelling of the penis that makes it difficult to pull back the skin around the tip of the penis

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• **Bladder cancer.** In studies of FARXIGA in people with diabetes, bladder cancer occurred in a few more people who were taking FARXIGA than in people who were taking other diabetes medications. There were too few cases of bladder cancer to know if bladder cancer was related to FARXIGA. Tell your healthcare provider right away if you have blood or a red color in your urine or pain while you urinate

The most common side effects of FARXIGA include yeast infections of the vagina or penis, and changes in urination, including urgent need to urinate more often, in larger amounts, or at night.

Before you take FARXIGA, tell your healthcare provider about all of your medical conditions (including kidney, liver, bladder, or pancreas problems) and **medicines you take; if you have had or have risk factors for ketoacidosis** (including type 1 diabetes, are eating less due to illness, surgery, a change in your diet, are going to have surgery, or binge drink); **if you are pregnant, or plan to become pregnant**, as FARXIGA may harm your unborn baby; and, **if you are, or are planning to breastfeed** as it is unknown if FARXIGA passes into breast milk.

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What is the most important information I should know about FARXIGA?

FARXIGA can cause serious side effects, including:

- **Dehydration.** FARXIGA can cause some people to become dehydrated (the loss of body water and salt). Dehydration may cause you to feel dizzy, faint, lightheaded, or weak, especially when you stand up (orthostatic hypotension). You may be at a higher risk of dehydration if you:

- have low blood pressure
- take medicines to lower your blood pressure, including water pills (diuretics)
- are 65 years of age or older
- are on a low salt diet
- have kidney problems

- **Vaginal yeast infection.** Women who take FARXIGA may get vaginal yeast infections. Symptoms of a vaginal yeast infection include:

- vaginal odor
- white or yellowish vaginal discharge (discharge may be lumpy or look like cottage cheese)
- vaginal itching

- **Yeast infection of the penis (balanitis).** Men who take FARXIGA may get a yeast infection of the skin around the penis. Certain men who are not circumcised may have swelling of the penis that makes it difficult to pull back the skin around the tip of the penis. Other symptoms of yeast infection of the penis include:

- redness, itching, or swelling of the penis
- rash of the penis
- foul smelling discharge from the penis
- pain in the skin around the penis

Talk to your healthcare provider about what to do if you get symptoms of a yeast infection of the vagina or penis. Your healthcare provider may suggest you use an over-the-counter antifungal medicine. Talk to your healthcare provider right away if you use an over-the-counter antifungal medication and your symptoms do not go away.

- **Bladder cancer.** In studies of FARXIGA in people with diabetes, bladder cancer occurred in a few more people who were taking FARXIGA than in people who were taking other diabetes medications. There were too few cases to know if bladder cancer was related to FARXIGA. You should not take FARXIGA if you have bladder cancer. Tell your healthcare provider right away if you have any of the following symptoms:
 - blood or a red color in your urine
 - pain while you urinate

What is FARXIGA?

FARXIGA is a prescription medicine used along with diet and exercise to lower blood sugar in adults with type 2 diabetes.

FARXIGA is not for people with type 1 diabetes.

FARXIGA is not for people with diabetic ketoacidosis (increased ketones in your blood or urine).

It is not known if FARXIGA is safe and effective in children younger than 18 years of age.

Who should not take FARXIGA?

Do not take FARXIGA if you:

- are allergic to dapagliflozin or any of the ingredients in FARXIGA. See the end of this Medication Guide for a list of ingredients in FARXIGA. Symptoms of a **serious** allergic reaction to FARXIGA may include skin rash, raised red patches on your skin (hives), swelling of the face, lips, tongue, and throat that may cause difficulty in breathing or swallowing.

If you have any of these symptoms, stop taking FARXIGA and contact your healthcare provider or go to the nearest hospital emergency room right away.

- have severe kidney problems or are on dialysis.

What should I tell my healthcare provider before taking FARXIGA?

Before you take FARXIGA, tell your healthcare provider if you:

- have type 1 diabetes or have had diabetic ketoacidosis.
- have kidney problems.
- have liver problems.
- have a history of urinary tract infections or problems urinating.
- have or have had bladder cancer.
- are going to have surgery.
- are eating less due to illness, surgery or a change in your diet.
- have or have had problems with your pancreas, including pancreatitis or surgery on your pancreas
- drink alcohol very often, or drink a lot of alcohol in the short term ("binge" drinking).
- are pregnant or plan to become pregnant. FARXIGA may harm your unborn baby. If you are pregnant or plan to become pregnant, talk to your healthcare provider about the best way to control your blood sugar.
- are breastfeeding or plan to breastfeed. It is not known if FARXIGA passes into your breast milk. Talk with your healthcare provider about the best way to feed your baby if you are taking FARXIGA.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

How should I take FARXIGA?

- Take FARXIGA exactly as your healthcare provider tells you to take it.
- Do not change your dose of FARXIGA without talking to your healthcare provider.
- Take FARXIGA by mouth 1 time each day, with or without food.
- When your body is under some types of stress, such as fever, trauma (such as a car accident), infection, or surgery, the amount of diabetes medicine you need may change. Tell your healthcare provider right away if you have any of these conditions and follow your healthcare provider's instructions.
- Stay on your prescribed diet and exercise program while taking FARXIGA.

For more information about FARXIGA, go to www.farxiga.com or call 1-800-236-9933.



AstraZeneca 

IMPORTANT INFORMATION ABOUT FARXIGA (far-SEE-guh)

- Your healthcare provider may do certain blood tests before you start FARXIGA and during your treatment.
- Your healthcare provider will check your diabetes with regular blood tests, including your blood sugar levels and your A1c.
- Follow your healthcare provider's instructions for treating low blood sugar (hypoglycemia). Talk to your healthcare provider if low blood sugar is a problem for you.
- If you miss a dose, take it as soon as you remember. If it is almost time for your next dose, skip the missed dose and take the medicine at the next regularly scheduled time. Do not take 2 doses of FARXIGA at the same time.
- If you take too much FARXIGA, call your healthcare provider or go to the nearest emergency room right away.

What are the possible side effects of FARXIGA? FARXIGA may cause serious side effects, including:

See "What is the most important information I should know about FARXIGA?"

- **Ketoacidosis (increased ketones in your blood or urine).** Ketoacidosis has happened in people who have **type 1 diabetes or type 2 diabetes**, during treatment with FARXIGA. Ketoacidosis is a serious condition, which may need to be treated in a hospital. Ketoacidosis may lead to death.

Ketoacidosis can happen with FARXIGA even if your blood sugar is less than 250 mg/dL. Stop taking FARXIGA and call your healthcare provider right away if you get any of the following symptoms:

- nausea
- tiredness
- vomiting
- trouble breathing
- stomach area (abdominal) pain

If you get any of these symptoms during treatment with FARXIGA, if possible check for ketones in your urine, even if your blood sugar is less than 250 mg/dL.

- **Kidney problems.** Sudden kidney injury has happened to people taking FARXIGA. Talk to your doctor right away if you:

- reduce the amount of food or liquid you drink for example, if you are sick and cannot eat or

- you start to lose liquids from your body for example, from vomiting, diarrhea or being in the sun too long.

• Serious urinary tract infections. Serious urinary tract infections that may lead to hospitalization have happened in people who are taking FARXIGA. Tell your doctor if you have any signs or symptoms of a urinary tract infection such as a burning feeling when passing urine, a need to urinate often, the need to urinate right away, pain in the lower part of your stomach (pelvis), or blood in the urine. Sometimes people also may have a fever, back pain, nausea or vomiting.

• Low blood sugar (hypoglycemia). If you take FARXIGA with another medicine that can cause low blood sugar, such as a sulfonylurea or insulin, your risk of getting low blood sugar is higher. The dose of your sulfonylurea medicine or insulin may need to be lowered while you take FARXIGA. Signs and symptoms of low blood sugar may include:

- headache
- weakness
- confusion
- shaking or feeling jittery
- drowsiness
- dizziness
- irritability
- sweating
- hunger
- fast heartbeat

• Increased fats in your blood (bad cholesterol or LDL)

The most common side effects of FARXIGA include:

- vaginal yeast infections and yeast infections of the penis
- stuffy or runny nose and sore throat
- changes in urination, including urgent need to urinate more often, in larger amounts, or at night

These are not all the possible side effects of FARXIGA. For more information, ask your healthcare provider or pharmacist.

Call your healthcare provider for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

How should I store FARXIGA?

Store FARXIGA at room temperature between 68°F and 77°F (20°C and 25°C).

General information about the safe and effective use of FARXIGA

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use FARXIGA for a condition for which it is not prescribed. Do not give FARXIGA to other people, even if they have the same symptoms you have. It may harm them.

This Medication Guide summarizes the most important information about FARXIGA. If you would like more information, talk to your healthcare provider. You can ask your pharmacist or healthcare provider for information about FARXIGA that is written for healthcare professionals.

For more information about FARXIGA, go to www.farxiga.com or call 1-800-236-9933.

What are the ingredients in FARXIGA?

Active ingredient: dapagliflozin.

Inactive ingredients: microcrystalline cellulose, anhydrous lactose, crospovidone, silicon dioxide, and magnesium stearate. The film coating contains: polyvinyl alcohol, titanium dioxide, polyethylene glycol, talc, and yellow iron oxide.

Distributed by: AstraZeneca Pharmaceuticals LP
Wilmington, DE 19850
Product of Ireland

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For more information about FARXIGA, go to www.farxiga.com or call 1-800-236-9933.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

Revised 8/2016

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go to www.farxiga.com
or call 1-800-236-9933.



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SHOULD I MAKE NEW FRIENDS AS I GET OLDER?

ANYONE WHO'S EVER MADE ROOM FOR A BIG milestone of adult life—a job, a marriage, a move—has likely shoved a friendship to the side. After all, there is no contract locking us to the other person, as in marriage, and there are no blood bonds, as in family. Friendships are flexible. "We choose our friends, and our friends choose us," says William K. Rawlins, Stocker Professor of Communication Studies at Ohio University. "That's a really distinctive attribute of friendships."

But modern life can become so busy that people forget to keep choosing each other. That's when friendships fade, and there's reason to believe it's happening more than ever. Loneliness is on the rise, and feeling lonely has been found to increase a person's risk of dying early by 26%—and to be even worse for the body than obesity and air pollution. Loneliness wreaks health havoc in many ways, particularly because it removes the safety net of social support. "When we perceive our world as threatening, that can be associated with an increase in heart rate and blood pressure," says Julianne Holt-Lunstad, professor of psychology and neuroscience at Brigham Young University and author of the recent study linking loneliness to mortality. Over time, she says, these effects can lead to hypertension, which increases risk for cardiovascular disease.

THE ANTIDOTE IS SIMPLE: friendship. It helps protect the brain and body from stress, anxiety and depression. "Being around trusted others, in essence, signals safety and security," says Holt-Lunstad. A study last year found that friendships are especially beneficial later in life. Having supportive friends in old age was a stronger predictor of well-being than family ties—suggesting that the friends you pick may be at least as important as the family you're born into.

Easy as the fix may sound, it can be difficult to keep and make friends as an adult. But research suggests that

you only need between four and five close pals. If you've ever had a good one, you know what you're looking for. "The expectations of friends, once you have a mature understanding of friendship, don't really change across the life course," Rawlins says. "People want their close friends to be someone they can talk to, someone they can depend upon and someone they enjoy."

If you're trying to replenish a dried-up friendship pool, start by looking inward. Think back to how you met some of your very favorite friends. Volunteering on a political campaign or in a favorite spin class? Playing in a band? "Friendships are always about something," says Rawlins. Common passions help people bond at a personal level, and they bridge people of different ages and life experiences.

Whatever you're into, someone else is too. Let your passion guide you toward people. Volunteer, for example, take a new course or join a committee at your local religious center. If you like yoga, start going to classes regularly. Fellow dog lovers tend to congregate at dog runs. Using apps and social media—like Facebook to find a local book club—is also a good way to find simpatico folks.

Once you meet a potential future friend, then comes the scary part: inviting them to do something. "You do have to put yourself out there," says Janice McCabe, associate professor of sociology at Dartmouth College and a friendship researcher. "There's a chance that the person will say no. But there's also the chance they'll say yes, and something really great could happen."

The process takes time, and you may experience false starts. Not everyone will want to put in the effort necessary to be a good friend.

Which is reason enough to nurture the friendships you already have—even those than span many miles. Start by scheduling a weekly phone call. "It seems kind of funny to do that, because we often think about scheduling as tasks or work," says McCabe. "But it's easy, especially as an adult, to lose track of making time for a phone call." When a friend reaches out to you, don't forget to tell them how much it means to you.

It's never too late to start being a better pal. The work you put into friendships—both new and old—will be well worth it for your health and happiness.

—MANDY OAKLANDER



PRO-TIP
I live alone. It's a lonesome type of life. A lot of my friends have passed away. But I have Princess, my late wife's Pomeranian. She's there to greet me and sit on my lap while I watch TV. She gives me all the affection I need. She makes my life worthwhile.'

MYER SEIDMAN,
 92; former
 sales manager;
 Poughkeepsie, N.Y.

*Longevity pro tips
 reported by
 Olivia B. Waxman*

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THE AGING ALL-STARS OF THE ANIMAL KINGDOM

By Jamie Ducharme

Our average lifespan of three score and 11 years finds humanity somewhere in the middle of animal-kingdom longevity.

From an insect that lives for minutes to a jellyfish that ages in reverse, here are lifespan outliers from the land and sea.

RED SEA URCHIN

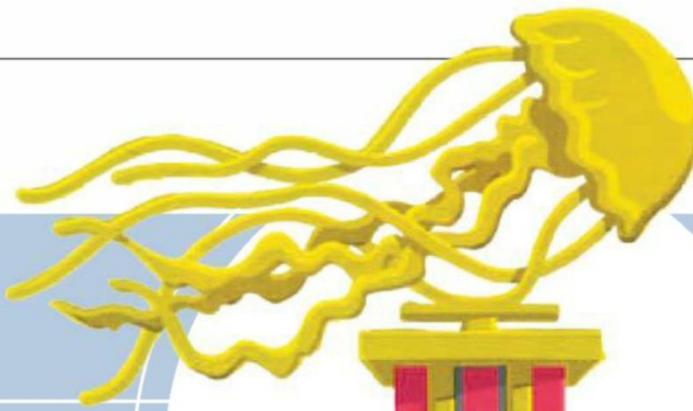
These spindly sea creatures, which can live to be at least 200 years old, are notably hearty and healthy, continuing to reproduce and evade age-related decline well into their golden years. Urchins may owe their longevity to telomeres—which cap off strands of DNA and protect chromosomes—that stay intact over time, rather than shorten with age, as they do in humans.

QUAHOG CLAM

While these plankton-eating mollusks, which are found in the Atlantic off North America and Europe, often live for about two centuries; one, named Ming, lasted a mind-bending 500 years (an eternity if you're buried under sand at the bottom of the sea). Like a tree, growth rings provide scientists with clues about the creature's age—and the ocean conditions and climate in which it lived.

OLD AND WISE





'IMMORTAL' JELLYFISH

The "immortal" jellyfish (real name: *Turritopsis dohrnii*) earns its moniker from an unmatched ability: when confronted with danger, it can revert to the polyp stage of development, before maturing back into a full-grown jelly. Its upper age limit is unknown.



GREENLAND SHARK

In 2016, researchers used a novel carbon-dating method, drawing on trace amounts of a radioactive isotope found in the eye, to estimate Greenland sharks' ages. The incredibly slow-growing (and slow-moving) species' lifespan was estimated to be 272 years, and possibly even longer—proving that, sometimes, slow and steady really does win the race.

GIANT TORTOISE

Low metabolic demands and slow cell turnover help giant tortoises live a long (and lethargic) life. One, nicknamed Lonesome George, became famous for living longer than 100 years, outlasting all the other tortoises on the Galápagos' Pinta Island.



LIVE FAST, DIE YOUNG

MAYFLY

Across the board, insects tend to live far shorter lives than other members of the animal kingdom. But female *Dolania americana* mayflies take the cake: they typically go through their entire life cycle in less than five minutes—and somehow manage to find a mate, consummate the relationship and lay eggs during that time. Talk about moving fast.

GALL MIDGE

Every day is judgment day for this family of flies. The *Rhopalomyia* gall midge emerges fully grown in the morning and perishes by that afternoon. So short is their adult lifespan, in fact, that the bugs don't even eat a first—let alone a last—supper.

LABORD'S CHAMELEON

This type of chameleon is the living embodiment of arrested development. The reptiles spend eight to nine months incubating in eggs, then live for only four to five months. The entire adult population dies by its native Madagascar's dry season, leaving only unhatched eggs to carry on the species.

SIGN EVIOTA FISH

This minuscule fish, native to the Australian coral reef and measuring just a couple of centimeters, has the shortest lifespan of any vertebrate, lasting just eight weeks from birth to death. It spends a measly three and a half weeks as a mature adult—only marginally longer than its time as a larva.

PYGMY SHREW

This tiny creature, weighing less than an ounce, is not only the smallest American mammal but also one of the shortest-living. Its maximum lifespan is thought to be about a year, and many die after only two to four months. Despite their diminutive bodies, these shrews starve extremely easily because of their lightning-fast metabolism.

ILLUSTRATIONS BY PETE RYAN FOR TIME





THE REAL OLYMPIC DRAMA

As the politics recede, athletes seize the spotlight

BY SEAN GREGORY AND
ALICE PARK/PYEONGCHANG



EMBRACING THE STAGE
BY DANIEL D'ADDARIO

PAIRS ON THE
ICE—AND OFF

*American
Chloe Kim
soars to her
halfpipe
snowboard
gold on Feb. 13*



A

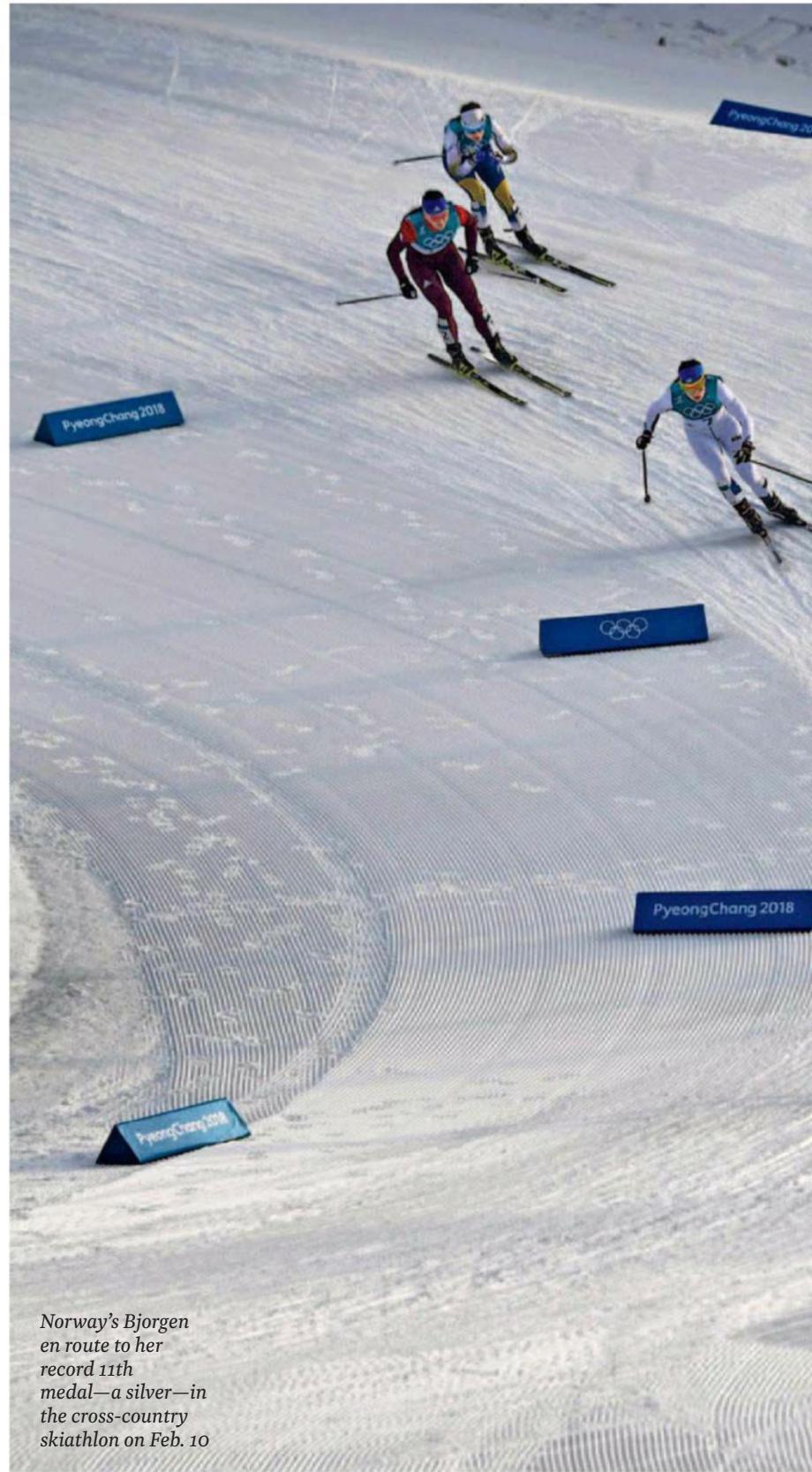
LL OLYMPIC GAMES BECOME a platform for causes bigger than the events they showcase. But the run-up to the 2018 Winter Olympics threatened to overshadow anything set to take place on the snow and ice in PyeongChang, South Korea. The location of the global gathering, barely 50 miles from the heavily armed demilitarized zone that marks the border with North Korea, guaranteed that the rogue state and the nuclear ambitions of its unpredictable leader would cast a fraught shadow over the action. For a while, it did.

The flourish of eleventh-hour diplomacy, during which North Korea sent a delegation of 22 athletes, 229 cheerleaders and leader Kim Jong Un's sister Kim Yo Jong to the Games and the two nations marched as one in the opening ceremony, was as controversial as it was conciliatory. U.S. Vice President Mike Pence remained seated as the Korean athletes entered the stadium. Spectators debated whether the hundreds of red-snowsuit-clad North Korean cheerleaders marked a historic opening—or canny propaganda from an oppressive regime.

But then, finally, the Games began. And as if by command, the drama of cable news gave way to the joy of the athletes themselves. On day one of the competition, Norwegian cross-country skier Marit Bjørgen, 37, won a silver medal to become the most decorated female Winter Olympian of all time, her 11th piece of hardware.

As older athletes were honored, younger ones were anointed. American Red Gerard, a pint-size 17-year-old from Colorado by way of Cleveland, became the youngest person in history to win gold in the slopestyle snowboard event, a feat that doubled as the U.S.'s first gold of the Games. "I never thought he would f-cking win it," his older brother Creighton gushed as the extended Gerard family celebrated the win with mountainside cans of Korean beer. "I can't believe this just happened. It's written in stone, man."

Gerard's unlikely triumph started a huge run for U.S. snowboarders in PyeongChang. Jamie Anderson, the yogi who carries tree bark and incense in her travel case, became the first female snowboarder to win two Olympic medals, defending the women's slopestyle gold she won four years ago in Sochi. On the halfpipe, Shaun White, the flame-haired American snowboard star, avenged a disappointing finish in Sochi in spectacular fashion. The last rider of his



*Norway's Bjørgen
en route to her
record 11th
medal—a silver—in
the cross-country
skiathlon on Feb. 10*



A NEW KIND OF OLYMPIC HERO BY DANIEL D'ADDARIO

AT 28, ADAM RIPPON IS RELATIVELY mature for a first-time Olympian. But perhaps the world stage wasn't quite ready for him until now.

Rippon tried and failed to get there in 2014. But the first openly gay U.S. Olympic figure skater seized the moment during his long-awaited debut under the rings. As part of the Feb. 11 team event, in which the U.S. took bronze, Rippon executed his jumps with willowy delicateness rather than brusque showmanship. In interviews and on social media, he was irrepressible, calling himself "a glamazon bitch ready for the runway" as he prepared for his solo routine.

It all added up to a new kind of Olympic hero: softer, quirkier and, yes, gayer. Along with freestyle skier Gus Kenworthy, the first two openly gay Winter Olympians on Team USA have become media sensations at perhaps the most media-saturated spot on earth. There's no moment nearly as unifying as the Olympics, which in turn makes every marquee athlete an ambassador, a teacher and, potentially, an agent of change.

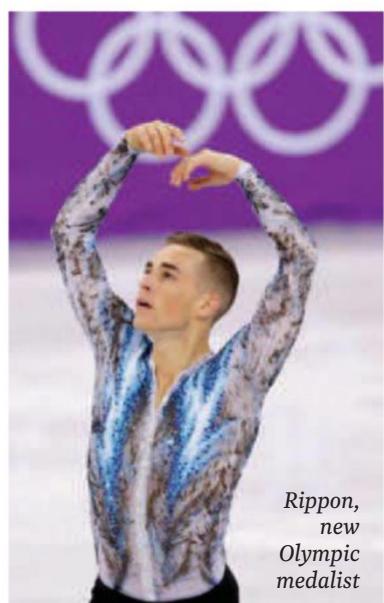
The two athletes share little but a collision of identities: gay men who have decided to live openly and whose talents have brought them to sport's grandest stage. Rippon is a carefully groomed *RuPaul's Drag Race* fan who jokes about his "haters"; Kenworthy is a gentle, bearded bro. And yet they're both obviously charismatic and comfortable being themselves. That they're compelling isn't because they're gay, but it owes a great deal to the fact that they're able to be out.

Both have embraced the power of their own images to move the world forward. The pair, clad in U.S. team garb, posed for pictures at the opening ceremony; in one, Kenworthy kissed Rippon on the cheek. The pictures cannily turned

the camaraderie central to the Olympics into an expression of identity.

There's little wonder why Kenworthy took advantage of the moment. The skier has spoken out about feeling compelled to stay in the closet during the 2014 Winter Olympics in Sochi, an event held shortly after the passage of Russia's "gay propaganda" law. Rippon has used his moment to criticize U.S. Vice President Mike Pence, a stance that has made him both popular and polarizing. Both athletes present a test case: there had been no precedent for a Kenworthy or a Rippon.

But now there is. And their successors as openly gay athletes on any stage will have to think a little less hard about being themselves. The Olympics have the power to elevate moments of individual boldness and grit into global news events, and to turn split-second decisions into defining moments. Who wouldn't want to use that chance to communicate a real sense of who one is, in all the complexity that comes with being human? □



Rippon,
new
Olympic
medalist



event, he landed a back-to-back 1440—four full revolutions in the air—to steal gold from Ayumu Hirano of Japan at the buzzer. The dramatic victory made White the first snowboarder to win three Olympic gold medals. But the moment was marred by White's unwillingness to address a sexual-harassment lawsuit filed by a former drummer in his rock band. White settled the suit, which alleged that he "sent sexually explicit and graphic images" to the woman in 2016. Asked about it after his win, White at first dismissed the allegations as "gossip," before apologizing for his choice of words.

ANOTHER OLYMPIAN offered a moment of unadulterated joy. Chloe Kim, a fearless 17-year-old from Torrance, Calif., dominated the competition on the halfpipe and melted hearts off it. A snowboard prodigy, Kim qualified for Team USA four years ago, but was still two years shy of the Olympic age minimum. In PyeongChang, she eviscerated the field, becoming the first woman to land back-to-back 1080s—three full revolutions in the air—at an Olympics. With Lady Gaga playing in her earbuds, Kim won gold with a score that was more than eight points higher than silver medalist Liu Jiayu of China. In between her runs, Kim tweeted about her hankering for ice cream and lamented her decision to leave a breakfast sandwich unfinished, making her "hangry."

All of it endeared the young star to fans in her native country and host South Korea, the birthplace

of her parents. Kim's cheering section was filled with relatives, and local media has covered her like a celebrity, trailing her through the Olympic village. After she won gold, somehow exceeding the seemingly impossible expectations, her father Jong Jin Kim pumped his fists in the air and shouted, "American dream!"

The figure-skating arena has never been a refuge from drama, and these Games have done their part to uphold the reputation. Some of it came in the form of politics, as when the openly gay American skater Adam Rippon took aim at Pence for his record on LGBT rights. But there was more intrigue on the ice. American Mirai Nagasu launched herself into the air—and the history books—for three and a half revolutions to become the first U.S. woman to land a triple axel at the Olympics, proving that it's not just the boys who can own the most challenging jumps. Rippon, meanwhile, helped the U.S. win the bronze in team skating with a crisp and poised routine. And the ice-dancing duo of Scott Moir and Tessa Virtue helped power Canada to gold with a charged free-dance performance that made them among the most decorated Olympic figure skaters of all time—and cemented their viral fame.

Those moments, the embraces on ice and the magic in the air, will likely serve as the legacy of these Games. They are our quadrennial reminder that barriers—physical, mental, social, even political—are of our own making. And they're just waiting to be broken. □

North Korean cheerleaders salute the unified Korean women's hockey team after a loss to Japan on Feb. 14

PERFORMING PAIRS

BY CADY LANG

Maybe it's the sizzling chemistry or the cozy choreography, but it shouldn't come as a surprise that more than a few of the figure-skating and ice-dancing pairs in PyeongChang are couples who share a connection both on and off the ice. Some are current partners, others have broken it off, and one pair is together off the ice—but not on it.

Alexa Scimeca Knierim (26) and Chris Knierim (30), USA

The Knierims are the first married couple to compete as a pairs team for the U.S. in 20 years, following Jenni Meno and Todd Sand in 1998. The couple have skated together since 2012; they made the ultimate commitment off the ice when they tied the knot in 2016 in a ceremony officiated by their coach Dalilah Sappenfield.

Madison Chock (25) and Evan Bates (28), USA

Although the duo grew up skating together in Michigan and casually dated as teenagers—Bates even took Chock out for her 16th birthday—their relationship never took off. But after becoming ice-dancing partners in 2011 and competing together at the 2014

Sochi Olympics, the pair reignited their romance last year.

Marie-Jade Lauriault (21) and Romain Le Gac (22), France

The pair skated with other partners before finding each other in 2014, an arrangement that turned out to be fortuitous for their personal lives as well. By the end of 2015, the duo had tied the knot. Lauriault was born in Canada but became a French citizen in December 2017.

Evgenia Tarasova (23) and Vladimir Morozov (25), Russia

With their country barred from the Winter Games as punishment for its state-supported doping scheme, Tarasova and Morozov are competing as Olympic Athletes from Russia. The pair began skating together in 2012 before becoming romantically involved.

Madison Hubbell (26) and Zachary Donohue (27), USA

Ice dancers Hubbell and Donohue dated for 2½ years but split ahead of the 2018 Games. They have since begun dating other skaters: Hubbell is with Spain's Adrià Díaz, and Donohue lives

with Olivia Smart, who is Díaz's partner on the ice. Both couples live and train together in Montreal.

Penny Coomes (28) and Nick Buckland (28), Britain

The ice-dancing pair, who have competed together since 2005, are also a couple off the ice. If their moves look familiar, it's because their PyeongChang program is inspired by a routine that British skating icons Jayne Torvill and Christopher Dean performed at the 1994 Lillehammer Olympics.

Anna Cappellini (30) and Ondrej Hotarek (34), Italy

Cappellini and Hotarek are a skating couple—just not on the ice. Each competes for Italy with different partners in different events: Hotarek and his partner Valentina Marchei compete in pairs skating, while Cappellini and Luca Lanotte compete in ice dancing.

Miriam Ziegler (23) and Severin Kiefer (27), Austria

Although Ziegler began her career as a solo skater, she now competes as a pairs skater with her boyfriend Kiefer.

Madison Chock and Evan Bates

Nick Buckland and Penny Coomes

Chris Knierim and Alexa Scimeca Knierim

Marie-Jade Lauriault and Romain Le Gac



The

artist's

Director **Jordan Peele**, whose groundbreaking movie *Get Out* is nominated for four Oscars, spoke to TIME columnist **Eddie S. Glaude Jr.** about his film, his fears and his hope for American culture

PHOTOGRAPH BY ANDREW WHITE



Getting four Oscar nominations is a big deal. You're only the fifth black director to be nominated in 90 years of academy history, and for a social thriller about race. How have you processed all of this? I'm trying. The only thing that makes it make sense is the realization that it's bigger than me. I'm inspired by the wonderful black directors that have come before me and realize that I can pay it forward. I am also proud to be a part of this renaissance happening in Hollywood. There used to be the view that black films couldn't sell overseas. *Straight Outta Compton* proved them wrong. It just feels great to be part of this moment in which directors who come from groups that have been marginalized by the industry in the past are getting opportunities.

You have that Oscar recognition, but then you have the misrecognition of the Golden Globes: you didn't get a Best Director nomination, and the film was nominated as a comedy, which upset a lot of people. You've made light of it, but to my eyes and ears it says something about the moment. What do you make of it? I am honored to have an international body recognize the film. And, you know, that my first film was celebrated by the HFPA and the Oscars is beyond my wildest dreams. As far as the question of genre, I actually like that the film doesn't fit easily into any one box. We knew we were creating a movie that defied categorization, so the fact that it continues to do so is pretty satisfying.

There's a tendency among critics with a film like *Get Out* to run past the craft of filmmaking to the politics of the film. You're really comfortable talking about the politics of the film. That's clear. But talk about your aesthetic. What are your influences, and what do you want people to feel as they see? You know, I wanted this film to have this combination of esoteric, refined imagery, and then a certain emotional richness to it. Certainly, I thought of it in terms of Kubrick and Spielberg. I thought of Alfred Hitchcock as being probably the master of beautiful refinement in the [horror] genre. And then there are moments of other maestros that I'm pulling from. Cronenberg. There are David Lynchian moments. John Carpenter and Ang Lee. And there's a major relationship to *Rosemary's Baby* and *The Stepford Wives*. Many horror films go to the depths of dirty, seedy, filthy

PEELE'S RISE & RISE

The multihyphenate star has toyed with genres throughout his career

Gothic horror. I'm much more drawn to films that explore a beautiful, disarmingly attractive aesthetic. That's why I wanted to set the movie in this idyllic Northeastern-y home.

You've said that "every frame has to be beautiful." That really struck me, along with the lighting and the way you focused on facial expressions. How does your training in puppetry inform this? Puppetry is basically another outlet to combine visual aesthetic and theatrical performance. When I went to college, I declared puppetry as a major—partly because I was obsessed with puppets, but also because I didn't feel like I could fail at puppetry. Puppetry was a rare art form to see in any type of success, so I wasn't setting myself up for failure. Now, this was a liberal-arts education at Sarah Lawrence. I took a puppetry class, I took a sculpture class, I took acting, comedy classes. I also took philosophy, literature and psychology classes to give me this well-rounded perspective. And I fell in love with sketch and improv. That was when I realized that the most intricate puppet was something I was born with—my body, the natural puppet. If I could apply what I was learning about puppetry to myself, I might be coming at it from a unique perspective.

Flash forward to actually directing, and directing is just that. It's this huge collaborative, intricate puppet show—I don't mean to suggest that performers are just puppets. On the contrary. I learned from puppetry that you have to listen to your puppets as much as they need to listen to you. You have to have a symbiotic relationship, you have to understand one another, because all you're really doing at

Key & Peele

Peele and Keegan-Michael Key rose to fame for their hit sketch show on Comedy Central from 2012 to 2015; the comedy duo had met years earlier at Chicago's Second City Theatre and worked at *Mad TV* in the early 2000s



Keanu

In 2016 Key and Peele produced and starred in the cultishly loved comedy, which Peele wrote with Alex Rubens, about two friends who must infiltrate a gang to rescue a kitten



the end is setting them up to blossom and to do what they do.

You have talked openly about your early childhood. Having to contend with this sense of being "other," and then finally checking the box: "black/African American." You felt the ground beneath your feet. When I watch your comedy or hear you talk about race, there is an organic feel you have with black culture. It doesn't appear to be the result of choice. You don't hear folks saying, like some did with President Obama, "He's trying a bit too hard." How did you navigate all of this as a child? My education in what it means to be black in America came from growing up black in America. Popular culture helped me contextualize that in terms of how we are allowed to be seen. Films like *Glory* and *Malcolm X* inspired me on the reverent side. *In Living Color* inspired me on the irreverent side. I loved that show, because where most shows had a token black actor, this one had a token white one. I didn't quite catch the early Eddie Murphy on *SNL*, but his films influenced me as well. Aside from black people from around the neighborhood, I had a few black role models at church—one of whom, artist Houston Conwill, was particularly cool.

I was to be feared. If there were any monsters out there, they would treat me as one of their own.

But mostly I learned what my place was as an African American by how I was viewed and treated by others—when black kids at school told me I sounded white, or the time I was stopped by the police with my Nerf bow and arrow, I began to understand that I was expected to fit into a certain categorization.

My mother got it. She understood the importance of all of this. She encouraged me to explore that side of my identity.

You have said that the source of your attraction to horror movies is that you were a terrified child. So was I. But I was deathly afraid of my father. What was the source of your fear? I didn't really know my father. I guess if I was to engage in psychological theory, part of my fear of unknown horrors might be because he wasn't around, but that might be me reaching in retrospect.

I think the major source of my fear is that I have a vivid imagination. I grew up in New York. Single mother. Latchkey kid. I had time on my hands—time to imagine what was hiding in all the crevices of New York City. Darkness and silence and the fear of the unknown have haunted me. The fear of death is the big one, right? I think comedy and horror are both ways in which we deal with the existential crisis of the knowledge that the pattern of life we're so used to will one day be broken, and we don't know what will happen next.

When I was about 13 years old, I went on a class trip to a campground, and I told a scary story around the campfire. This was a turning point for me because I remember the story hitting—like, it worked. It really scared the—it just really worked. You could just feel this

Fargo

Peele played FBI Agent Budge to Key's Agent Pepper in the first season of the 2014 TV show based on the Coen brothers' 1996 film



Magazine man

Key and Peele appeared on TIME's March 24, 2014, cover for the Ideas issue, in which the pair wrote "The Case for Mockery"

Get Out

Peele's directing debut garnered critical acclaim and grossed \$255 million worldwide, racking up award nominations for its writer-director and cast, including a Best Actor Oscar nomination for star Daniel Kaluuya



What's next

Peele's future projects include *Lovecraft Country*, a TV series for HBO, and a *Twilight Zone* reboot for CBS



palpable shiver go through the place. After that moment, I remember walking through the woods to fetch something, alone, at night, and just feeling like I had a new superpower, where I was no longer afraid of the dark. I was not afraid of the unknown.

It taught me that wielding the power of fear put me on the other side of it. And it allowed me to appreciate the artistry of horror and fear. I almost felt like I was on the side of the monsters—I was to be feared, and therefore, if there were any monsters out there, they would treat me as one of their own. That was kind of the feeling I had.

What does it mean to wield the power of the fear of race? I'm always going back to James Baldwin, maybe because I'm writing a book about him, but he has this line from "Stranger in the Village" that people who insist on remaining in a state of innocence, long after that innocence is dead, turn into monsters. He would later associate that formation with white liberals, particularly. The monstrousness of white liberals comes into view in *Get Out*. What are you saying to us about white liberals? We have this association of the monsters of racism being a certain type. Being a Klan member. Being a Nazi. Being a vicious, outwardly violent, murderous police officer. They are the monsters, but in categorizing them as such, I think we often lose sight of the demon of racism. It is a systemic thing, and it's something that we all have to deal with within ourselves. I am less scared of the person who calls me "nigger" than the person who is thinking it near me.

Even though it's awful, I can identify

The division in this country comes from a lack of empathy ... from a denial of one another's experiences.

someone who's vocal, and therefore I can stay away from them, I can call the cops, I can try to have a conversation with them—whatever. But when there's silence, when there are people who are not in touch with their inner racism, that's when the violent culprits find room to fester and grow. And that's where all those checkpoints in systemic racism are allowed to flourish as well.

It's like that moment in Dr. King's "Letter from Birmingham Jail." He is speaking to those liberals, those preachers who are standing by, watching the demonstrations, silent in the face of it, who claim a certain kind of progressivism but who urge us to go slow—a certain kind of moral stance in relation to the world. A big part of why I made this film was I felt like the way we talk about race as a culture is broken. We haven't even agreed on the definition of the word *racist*. Anybody in this country, whether they carry tiki torches or whether they are just a cog in the system—if you call them a racist, it's the worst insult you can use. Calling them that is not entirely wrong, but [the gut reaction to the label] prevents many people from looking at their own racism. "I can't be racist, because I've got a black friend." How many times have you

heard that one, right? So, my hope with this movie was to add this piece to the conversation, to observe the connection between the subtle, "not hurtful" racism and the worst racism, of violence and slavery and abduction. I felt that by drawing that connection, even if we have a hard time talking about racism, we might have an easier time talking about the movie *Get Out*.

We've got to have some hope in all of this. What do you think is the role of art, and the artist, in this panic-stricken moment, where terror seems to be around every corner in the age of Trump? The beauty of art and the beauty of story are society's ways of encouraging empathy. Take *Get Out* as an example. There is a lot that can be accomplished by expressing the fears within the African-American experience. There's a lot that can be accomplished by white people experiencing those fears.

The Coagula operation in the film is absolutely a way that white people can live in the head of a black person for 90 minutes. That's a narrow, specific example. Every artist who puts their truth out there means to provoke conversation or to provoke emotion. They are already doing something that is promoting empathy. They are inviting us into their heads. The division in this country comes from a lack of empathy. It comes from a denial of one another's experiences. It's not a mistake by any means that this outwardly divisive time is juxtaposed with people of color making ambitious and beautiful films and television, and art.

Glaude is the chair of the department of African-American studies at Princeton



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Paul Fredrick

Time Off

Natalie
Portman
stars in the
sci-fi thriller
Annihilation,
out Feb. 23

MOVIES
**Science fiction knows
the future is female**

By Sam Lansky

N

NATALIE PORTMAN'S NEW MOVIE WAS SHOT NEARLY two years ago, but it couldn't be coming out at a better time. "It's this very simple but radical thing: five female central roles," she says. "It should be totally normal. But it's actually completely remarkable."

The film is *Annihilation*, an adaptation of Jeff VanderMeer's 2014 sci-fi novel by the same name, the first in his best-selling Southern Reach trilogy. In the film, biologist Lena (Portman) is troubled when her husband (Oscar Isaac) returns from a top-secret mission not quite himself. Lena travels into the same territory her husband somehow survived—a contaminated zone known as Area X that's surrounded by a mysterious haze—with a group of fellow female scientists, played by Jennifer Jason Leigh, Tessa Thompson, Gina Rodriguez and Tuva Novotny.

Despite the popularity of the novel, *Annihilation* feels like a gamble. It's weird, moody and head-spinning, at turns startlingly violent and eerily meditative. The film was written and directed by Alex Garland, whose directorial debut, the 2015 thriller *Ex Machina*, earned him rave reviews and made a star out of Alicia Vikander. Like that film, *Annihilation* is singularly ambitious—not only because it's rare to see a strong, diverse group of women together onscreen, but also because it grapples with so many profound and complex issues. "So many of the ideas put forth were things that I never thought about," Portman says. "How you don't understand why you do things that you know are going to hurt you or the people you love."

The story is complicated by the fact that each woman on the mission is facing her own struggles. Rodriguez, best known as the sunny title character on TV's *Jane the Virgin*, plays Anya, a lesbian paramedic who starts to break down psychologically over the course of the mission. "In sci-fi, we're actually telling very human stories about fear, mortality, insecurity and the ways in which we self-destruct every day," Rodriguez says. "As a Latina, in my culture, we don't talk about mental health, ever. I've struggled with anxiety and depression." Thompson, who has played everyone from civil rights activist Diane Nash in *Selma* to the warrior Valkyrie in *Thor: Ragnarok*, stars as Josie, a physicist who's deeply attuned to the environment. "Researching the role changed the way that I lay under a night sky, the way I think about the stars and the way I think about myself and my body," Thompson



From left: *Annihilation* stars Tessa Thompson, Jennifer Jason Leigh, Natalie Portman and Gina Rodriguez. "We were artistic colleagues," says Portman. "Now we're colleagues in a political way."



says. Leigh's Dr. Ventress, a psychologist, and Novotny's anthropologist Cass are both dealing with secrets of their own. "Everyone is struggling to understand who they are," veteran actor Leigh says. As the women travel deeper into Area X, they must face themselves and one another, in surprising and harrowing ways.

Science fiction is a genre that's been historically driven by and marketed to men. But there's a tradition of smart sci-fi that features emotionally complex female leads, like Jodie Foster's grief-stricken Dr. Eleanor Arroway in *Contact*, or the linguist Louise Banks, brought to life by Amy Adams in *Arrival*. *Annihilation* bears some similarities to those films in that it's heady and cerebral. However, its gruesomeness aligns it more with *Alien*, which introduced viewers to Sigourney Weaver's Ellen Ripley, a deeply human heroine who's deft with a pulse rifle. Viewers who want to see Portman blazing gunfire at a mutant alligator will still leave *Annihilation* feeling satisfied. But it's not a movie about killing alien beasts; it's a movie about reckoning with the beasts within. The film succeeds because it doesn't make a big deal out of its female cast. Instead it just leans back and lets them shine.

REVELATIONS SURROUNDING sexual harassment and abuse in the entertainment industry have dominated headlines since last fall. The subsequent work of the Time's Up movement to foster greater parity and safety for women in Hollywood makes a film like *Annihilation*, with its robust cast of textured female characters, feel especially vital. But it's still the exception, not the rule. "As actresses we're very used to being one of the only women on a set," Portman says. "Once there are many women, you're looked at as a human being. You can't just be categorized as the girl." *Annihilation*, which allows its characters to explore a range of emotions, suggests that the same old ideas about how men and women should be depicted onscreen don't serve anyone. "I keep hearing from men, 'We suffer from this patriarchal system too, because the

range of what we're allowed to express is very limited,'" Portman says. "There are limitations on women, but there are also limitations on men."

Thompson says films like *Annihilation* are important not only because they remind viewers that heroes don't always have to be white guys, but also because they're good business. "We're in such a special time, because last year the three highest-grossing films had women at the center," she says. (She's referring to *Star Wars: The Last Jedi*, *Beauty and the Beast* and *Wonder Woman*.)

The issue on everyone's mind is representation, particularly in this political climate. "Because of the Trump Administration, Latinos are personified in a negative light, and falsely," Rodriguez says. "Latinos make up 23% of the box office every single weekend. It's only a matter of time before Latinos recognize their power, which is in the dollar. If they don't see a reflection of their community onscreen, those films won't do as well." But even projects that make a point of being inclusive can spark controversy. While *Annihilation*'s cast is diverse, it has come under fire for casting white actors as two characters who

'As actresses we're very used to being one of the only women on a set. Once there are many women, you're looked at as a human being.'

—NATALIE PORTMAN

were described, in subsequent books in the series, as being of Asian and Native American descent, respectively. Garland has said he developed the film before the characters' ethnic backgrounds were introduced in the books. In a statement, he said "whitewashing is a serious and real issue."

Hopes are high that when *Annihilation* opens on Feb. 23, the box office will once again reflect the power of a diverse group of women to draw audiences to theaters. But as the film's stars have banded together to push for change within the industry, their work has become about something bigger than this, or any other movie. "When there is only one job for a woman, women are pitted against each other," Portman says. "It's been really exciting and fun to break that down. Now we're sisters in a whole different way." □

MOVIES

Black Panther is a movie for everyone

By Stephanie Zacharek

MARVEL SUPERHERO MOVIES ARE NO LONGER just a single entertainment option among many; they're a man-made force of nature. The only thing wrong with Ryan Coogler's stirring, imaginative *Black Panther* is that it's required to fit into the superhero-movie mold at all. The whole thing moves a little too fast. There are so many gorgeous details—from Ruth E. Carter's Afro-futuristic costumes to Hannah Beachler's Emerald City-a-go-go production design—that you might wish you could linger on certain images a bit longer.

But *Black Panther*, smart, lavish and fun without being assaultive, is still a cut above—no, make that several cuts above—any other recent superhero movie. The picture has a social conscience, speaking out plainly about the moral obligations of powerful countries, including sheltering refugees, sharing technology and science, and dividing wealth equitably. Those ideas form the movie's supple backbone—they aren't just stuff that's been added to make the whole venture seem important.

Chadwick Boseman stars as T'Challa, the leader of a fictional isolationist African country called Wakanda, which sits on a mother lode of an extremely precious and potent metal known as vibranium. (The country's riches are kept secret from the rest of the world.) T'Challa is also, when kitted out in his sleek black superhero outfit, the principled and authoritative Black Panther. When his father, the King, is killed by a terrorist bomb, T'Challa returns to Wakanda from America to assume the country's leadership. Even amid the grieving, it's a happy homecoming. He's greeted by his regal mother Ramonda (the ever fabulous Angela Bassett) and his riot-grrrl science-nerd sister Shuri (the marvelous Letitia Wright). He reconnects with his closest friend, W'Kabi (Daniel Kaluuya), and reunites with the ex whom he still loves, Nakia (Lupita Nyong'o), a fighter-activist who's more interested in justice than romance. For now, at least.

But trouble shows up in the brooding form of Michael B. Jordan's Erik "Killmonger" Stevens, who storms into Wakanda for revenge and something more. The action in *Black Panther* includes a lot of hand-to-hand combat, much of it taking place in a sacred pool; the editing of these scenes could be cleaner, but they still give the movie a nice jolt of organic energy. All the performances are terrific, though the women steal the show. Danai Gurira (of *The Walking Dead*) plays Okoye, a member of an elite squad of royal bodyguards. When she comes out swinging—her head shaved clean, her face a



▲
Cat power:
 Boseman's Black
 Panther walks
 the treacherous
 line between
 conflicted King
 and conscientious
 superhero

mask of don't-mess-with-me attitude—only a fool would risk looking away.

One of *Black Panther*'s attributes, clear from its inception, is its many roles for actors of color. From the early to mid-20th century, there was a small but important industry of films made especially for black audiences, featuring stars like Cab Calloway and Lena Horne. These weren't extravagant pictures, but they offered both escapism and a view of life that wasn't exclusively white. They reassured black Americans—and it's a tragedy by itself that such reassurance would be necessary—that they too were America.

Black Panther is a modern expansion of that idea, a picture for everyone that stresses the necessary meaning of the word *everyone*. It's pure pleasure to look at the screen and see the faces of both established actors we don't get to see often enough, like Bassett, and vibrant newcomers, like Wright. The movie is set almost exclusively in a fantasy world. Still, there's no shaking the feeling that this is what America looks like when it's allowed to be its truest, freest self. That's a superhero challenge if ever there was one. □

MOVIES

Soccer and Stone Age silliness in *Early Man*

THERE MAY BE NO GREATER ACT OF obsessive movie love than making a stop-motion animated film, and Nick Park, director of the marvelous *Wallace and Gromit* films and a co-director of the flying-the-coop coup *Chicken Run*, has given us some of the best. The expressiveness of his characters—poultry suffering from existential anxiety, cranky dogs passing silent judgment on the idiocy of humankind—speaks volumes about the human condition, though always with a wink.

Park's latest, *Early Man*, isn't always as mischievously delightful as those earlier films, but its breezy, generous spirit counts for plenty. Eddie Redmayne is the voice of Dug, a goofy kid from Stone Age England who helps his small, bumbling tribe fend off the nakedly colonialist Lord Nooth (Tom Hiddleston), a snooty French Bronze Age aggressor who hopes to annex the tribe's peaceful valley. The solution: a high-stakes soccer match. The complication: the Bronze Agers are soccer-mad, while the Stone Agers are newbies.

The shenanigans on and off the pitch are entertaining enough, but the best bits of *Early Man* lie in the margins, including the way Stone Age tribal chief Bobnar (Timothy Spall) uses a live beetle as a prehistoric electric shaver—its whirring legs whisk his whiskers away. That's a flash of Flintstonian genius, served up Nick Park-style. Even shaving, part of the drudgery of the human condition, can be fun. —S.Z.

A Stone Age boy named Dug and his pet hog, Hognob, face the future in *Early Man*

**MOVIES**

Old-school animation for modern times

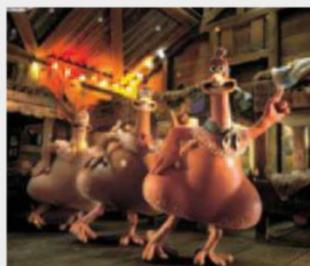
In a digital world, Aardman Animations eschews CGI in favor of clay puppets, wooden sets and a lovingly handmade effect. —Kate Samuelson

**ANIMATION FOR ADULTS**

Founders Peter Lord and David Sproxton, who began working in animation as teens, started their careers with children's TV programs in the 1970s. But it was *Creature Comforts* (1989), a short film for adults, that won them an Oscar by putting real, human conversations into the mouths of Plasticine animals.

**AN OSCAR-WINNING DUO**

Animator Nick Park joined in 1985, bringing his graduate film project featuring Wallace and Gromit, the now iconic clay duo of an eccentric inventor and his canine pal. Gromit began as a cat, until Park realized that dogs were simpler to animate. The pair starred in four shorts and a 2005 Oscar-winning feature.

**BOX OFFICE BONANZA**

Aardman's first full-length feature, the comedy *Chicken Run*, was released in 2000 in partnership with DreamWorks. A crew of 250 took 18 months to shoot the movie. More than 500 puppets were created out of Plasticine and silicone. The movie was a hit, grossing nearly \$225 million worldwide.

**DABBING IN DIGITAL**

Aardman's 2006 foray into CGI, *Flushed Away*, told the story of an aristocratic rat's adventures in a sprawling sewer. A commercial failure, the film inspired a return to the original Claymation formula. "You can work wonders with CGI, but it can feel a little bit emotionally cold," says Sproxton.

A RETURN TO THE ROOTS

Creating "Braveheart with balls," as Park describes *Early Man*, Aardman's prehistoric comedy adventure, was no easy feat. It required roughly 40 sets, from lush forest to gleaming city, and a crew of more than 150. Then there were the furry costumes, which caused an unintended twitching effect. "But personally, I like the twitchiness, in the same way that I like to see the animators' fingerprints in the clay," says Park. "The audience is reminded of the craft and the handmade-ness of it."



On Looming Tower, tough questions are asked—if not answered

TELEVISION

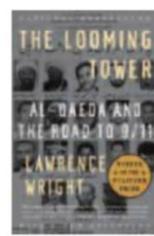
Ego and blindness collide in the years before 9/11

By Daniel D'Addario

HULU ASSERTED ITS AMBITION LAST YEAR WITH THE DYSTOPIAN literary adaptation *The Handmaid's Tale*, a drama that resonated with viewers thanks to its congruence with certain strains in the culture in 2017. Now the streaming service is hoping for continued success with *The Looming Tower*, a series attempting a similar trick: adapting a respected book (nonfiction this time) into a series that's both gripping and relevant. It succeeds, with a project that restages the years before Sept. 11 and tells a darkly ironic story about the fecklessness of government.

The Looming Tower's story comes from Lawrence Wright's book of the same title about the conditions that led to the chaos of 2001. One such condition was a lack of cooperation—indeed, at times an active hostility coming close to subversion—between the CIA and FBI, two agencies whose unwillingness to cooperate led to missed opportunities. Peter Sarsgaard's CIA analyst Martin Schmidt emanates waves of disdain for those around him; a list of al-Qaeda agents and potential targets his team has obtained is theirs both because he smartly doesn't want to spread top-secret intelligence and because he guards his territory so jealously. Intelligence gathering is, for him and for Jeff Daniels' FBI special agent John O'Neill, more than just duty. It's competition.

The Looming Tower is clear-eyed about how human failings like vanity and obsession complicate the job of ensuring national security. There are also external factors, like the scandal surrounding Bill Clinton's lying under oath, which Schmidt sees as a sign that the President will finally "pull the trigger on al-Qaeda." It doesn't matter that such an action would be a transparent distraction by design; for Schmidt's career spy, all that matters



LITERARY PEDIGREE

Wright's book won a Pulitzer Prize in 2007. The author went on to write about the rise of ISIS in the 2016 collection *The Terror Years*.

is short-term, decisive action against al-Qaeda.

We've seen his type before, from a different vantage point. Once empowered CIA agents consumed with post-9/11 guilt sit at the center of the show *Homeland* (Claire Danes) and the film *Zero Dark Thirty* (Jessica Chastain). Those characters are forced to shoulder the guilt; the cast of men who form *The Looming Tower*'s intelligence community—including Alec Baldwin's CIA head George Tenet and Michael Stuhlbarg's counterterrorism czar Richard Clarke—get to act out the arrogance that came before. The show doesn't need to strain to make points about the sort of person who refuses to intuit what's on the horizon—not that that stops Schmidt from indulging in melodrama. "I don't get paid, sir, to be a citizen of the world!" he shouts, testifying about lives lost half a world away in U.S. bomb strikes.

The show lands at an interesting moment. While its depiction of martial men in grave error will resonate among much of the same audience that made *The Handmaid's Tale* a hit, those same viewers may currently find themselves investing a complicated sort of faith in the intelligence community. It's an odd historical twist that has led some liberals to turn to the same law-enforcement and espionage figures who, a few years ago, were less widely embraced. *The Looming Tower* has little to say that will comfort these viewers. Its message, as the shadow of terrorism encroaches: while an internecine war raged in the halls of power, Americans were on their own. The connection is less obvious here than it was in *The Handmaid's Tale*'s Gilead-to-America calculus. Take from it what you want, or, perhaps, what you most fear.

THE LOOMING TOWER streams on Hulu starting Feb. 28

TELEVISION

A new kind of criminal

ON NBC'S *GOOD GIRLS*, THREE suburban moms (played by Christina Hendricks, Retta and Mae Whitman) charge into a grocery store, toy guns blazing, faces covered in ski masks that resemble the iconic Pussy Riot headwear. They're broke, dismissed by the men in their lives, and want to seize back their power. Chaos ensues.

For years, shows like *Breaking Bad* and *The Sopranos* featured male anti-heroes who found strength in criminality. But these women are exposed to different kinds of risk. After all, Walter White never had to worry that an enemy might rape him. As Margaret Atwood once said, "Men are afraid that women will laugh at them. Women are afraid that men will kill them." *Good Girls*, a drama with plenty of laughs, is unflinching in how it considers these factors. It feels timely: in this moment of reckoning with how women are treated, in Hollywood and elsewhere, it's a thrill to see three women explore a new facet of an old television genre.

—ELIANA DOCKTERMAN

GOOD GIRLS airs on NBC on Mondays at 10 p.m. E.T.

Hendricks, who brought a slyly feminist edge to her secretary on *Mad Men*, turns to crime on *Good Girls*



Latrice Butler (Regina King) searches for meaning in a senseless tragedy

TELEVISION

Gifted stars elevate *Seven Seconds*

NETFLIX'S NEW CRIME SERIES

Seven Seconds feels a lot like other shows we've seen recently. There's an inciting incident—here, the striking and killing of a teenage boy by a cop driving around Jersey City, N.J.—that's shocking for the viewer even before he or she knows the characters well. Once they come into focus, those characters are shown to be burdened with such an array of ills—including Jersey City's police corruption and racial tensions—that the show can feel overstuffed.

And yet it has a valuable tool in its arsenal. *Seven Seconds* carefully deploys Regina King, as the mother of the fallen teen, to lend heft and weight to a story that sometimes threatens to collapse on itself. She's reason enough to give hours to *Seconds*.

King has lately become a familiar figure on ambitious TV dramas; the actor, a key supporting player on HBO's *The Leftovers*, won two Emmys for two different roles on ABC's anthology series *American Crime*. That show, much like this one, ratcheted up the suffering to make points about Americans' cruelty to their neighbors. It was a worthy downer, one within which King

found the rage that made it vibrate.

On *Seven Seconds*, King does similarly miraculous work. Her Latrice Butler is a devout believer whose ordeal at first only deepens her faith in God's righteousness. But that belief morphs, later, into the notion that there must at least be a reason, a culprit who can be caught. Her husband (Russell Hornsby), withdrawn into his own grief, is little

help; neither is an unfocused assistant prosecutor (Clare-Hope Ashitey, wonderfully transcending at times schlocky material) who finds reprieve from past mistakes through binges at a local karaoke bar.

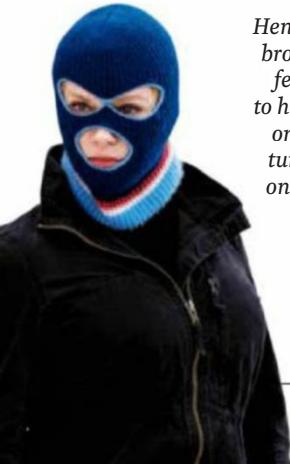
That choice—to write Ashitey's character not just as a drinker but one

who spends her benders singing out—is *Seven Seconds* exemplified. Every character is laden with burdens that feel impossibly baroque. And yet, thanks to performers like Ashitey, the endless piling on of pain feels like the building of a compellingly specific landscape. Pain is an easy choice for writers, but it's also, in the hands of actors who elicit our empathy through dialed-in performances, as human as it gets. —D.D.

'You're telling me the person who did this will get three to five years? That man deserves to die for what he did to my son.'

REGINA KING, confronting Clare-Hope Ashitey's lawyer character

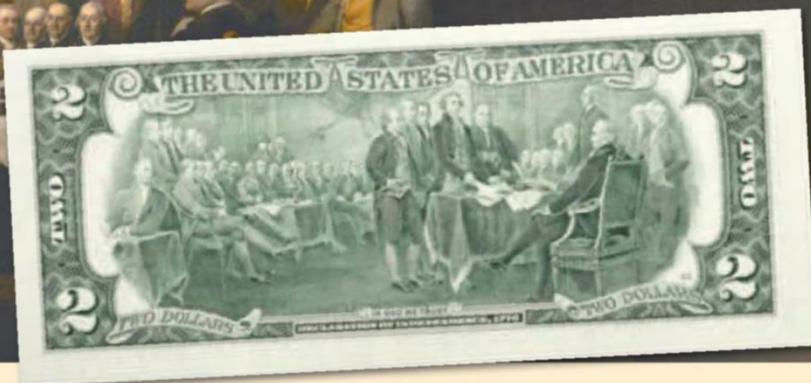
SEVEN SECONDS will stream on Netflix starting Feb. 23



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NONFICTION

Reading our past for the future

By Sarah Begley

FOR PROOF THAT THE PAST lives in the present, look no further than the news earlier this year that prisons in Florida, North Carolina and other states had banned inmates from reading *The New Jim Crow*, Michelle Alexander's influential book about race and the evolution of mass incarceration. Although some bans were overturned, it goes to show that history can be a powerful thing—so powerful that some would have knowledge restricted.

For Black History Month, an annual opportunity to reflect on progress and power, TIME asked scholars of African-American history to name the books they'd recommend to help readers better understand what came before. Their choices—which include *The New Jim Crow*—reflect rich scholarship, iconoclastic ideas and a serious grappling with the roots of some of today's most pressing issues. □

BETTYE COLLIER-THOMAS

recommends

Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (2010)

"Every American should read *The New Jim Crow*, which brilliantly illustrates how mass incarceration functions to re-enslave black people and to dupe Americans into believing that racism and Jim Crow are dead."

Collier-Thomas is a professor at Temple University and author of Jesus, Jobs and Justice

DAVID LEVERING LEWIS

recommends

James Weldon Johnson, *Along This Way: The Autobiography of James Weldon Johnson* (1933)

"A grand but somewhat neglected memoir by a polymath of the Jazz Age. His statesmanship healed the bitter divide between followers of Booker Washington and W.E.B. Du Bois; his poetry and an anonymous novel introduced the 'New Negro' of the '20s."

Lewis is an emeritus professor at NYU and author of the two-part biography W.E.B. Du Bois

JULIET E.K. WALKER

recommends

Ralph Ellison, *Invisible Man* (1952)

"Those who were excluded and left behind—African Americans—were Ellison's 'invisible' people. Today, especially within the context of democracy's struggles around the world, that experience has valuable lessons for many others as well."

Walker is a professor at the University of Texas at Austin and author of The History of Black Business in America

DAINA RAMEY BERRY

recommends

Harriet A. Jacobs, *Incidents in the Life of a Slave Girl, Written by Herself* (1861)

"I recommend this narrative so that readers can learn firsthand about the experiences of an enslaved woman, one who is largely unknown to the general public yet recognized among scholars. This is a remarkable story of resistance, resilience and the desire for freedom."

Berry is an associate professor at the University of Texas at Austin and author of The Price for Their Pound of Flesh

IBRAM X. KENDI

recommends

Robin D.G. Kelley, *Freedom Dreams: The Black Radical Imagination* (2002)

"Through this masterful book of black radical history and philosophy, I can look past the dreariness of our unfree world with the binoculars of the imaginary, learning from those female and male 20th century activists Kelley chronicled, who refused to let any oppressor stop their movement dreams of a free life, of a free world."

Kendi is a professor at American University and author of Stamped From the Beginning

MANISHA SINHA

recommends

W.E.B. Du Bois, *Black Reconstruction in America* (1935)

"This classic describes the attempt to establish black citizenship in the United States after abolition. This experiment was overthrown and a rigid system of racial subordination, segregation, disfranchisement, lynching and racial violence was established in the South.

It teaches us how quickly political gains can be undone."

Sinha is a professor at the University of Connecticut and author of The Slave's Cause



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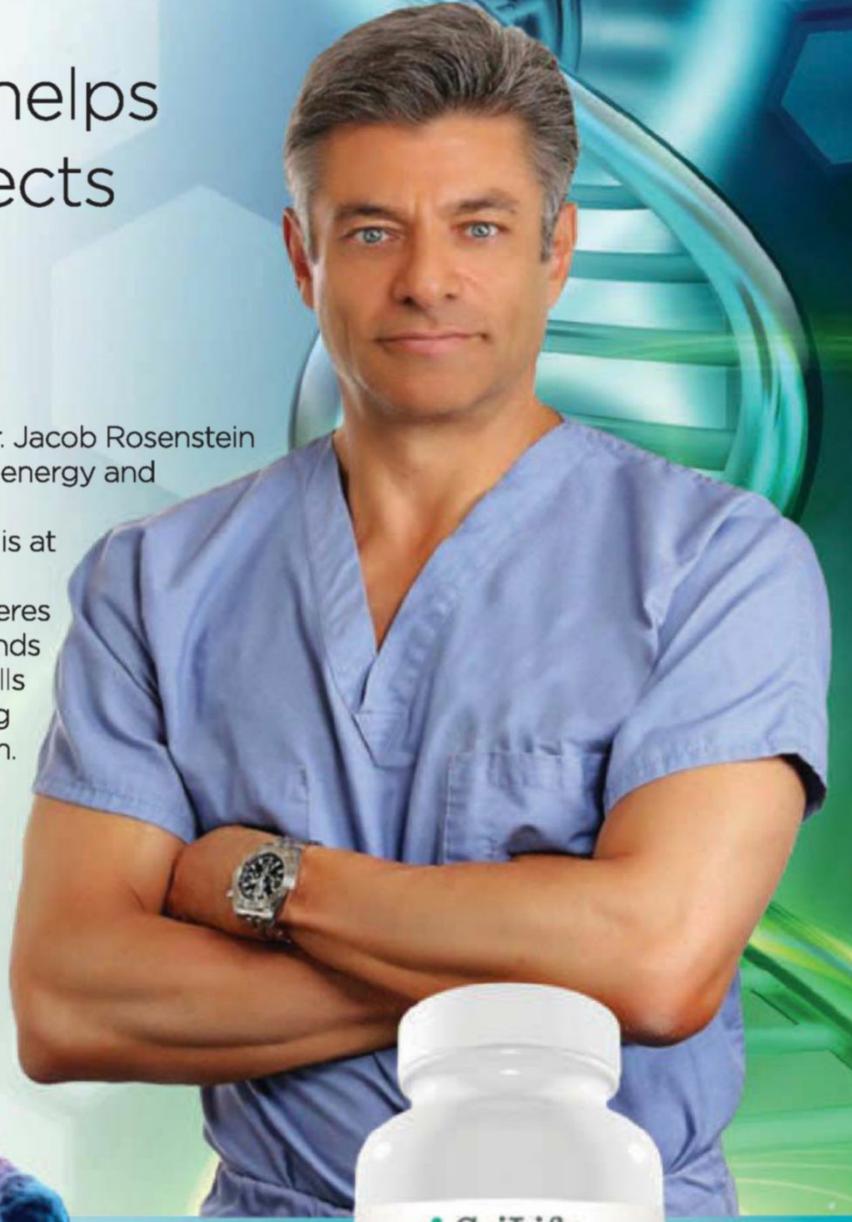
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HISTORICAL FICTION

Real-life true love takes a novel turn

By Sarah Begley

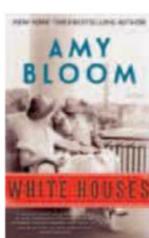
TIME FIRST WROTE ABOUT LORENA HICKOK ("Hick" to her friends) in 1934: "She is a rotund lady with a husky voice, a peremptory manner, baggy clothes. In her day one of the country's best female newshawks, she was assigned to Albany to cover the New York Executive Mansion where she became fast friends with Mrs. Roosevelt." Imagine reading that description of yourself—and imagine seeing your lover described as your "fast friend." Hard knocks for Hick.

Amy Bloom has done just that kind of imagining in *White Houses*, creating a novel out of the long-standing affair between Eleanor Roosevelt and Hickok, which was an open secret inside the White House (as was Franklin D. Roosevelt's affair with his secretary Missy LeHand). Historians have debated the nature of their relationship, but it's now generally thought to have been a deep romance. It cost Hickok her job as a reporter for the Associated Press, where she had covered national stories like the Lindbergh kidnapping. But once she fell in love with Eleanor, she couldn't report objectively on the First Lady. The Roosevelts found her a job as chief investigator for the Federal Emergency Relief Administration; when she wasn't on the road observing the New Deal at work, she was sleeping in her own room in the White House.

Although their romance was hush-hush in their lifetimes, a trove of correspondence made public late in the 20th century illustrates a deep intimacy. "Oh! I want to put my arms around you. I ache to hold you close," Eleanor wrote in 1933. These artifacts allowed Bloom to inhabit the mind of a historical figure, somewhat like the could-be Laura Bush in *American Wife*, by Curtis Sittenfeld (who is at work on a book imagining Hillary Clinton as never having married Bill). That is the joy of books like these: we can air out the stories history packed away in a dusty attic, try them on for size and experiment with alterations.

"I never envied a wife or a husband, until I met Eleanor," Bloom's Hickok says. "Then, I would have traded everything I ever had, every limo ride, every skinny-dip, every byline and carefree stroll, for what Franklin had, polio and all." Eleanor's vulnerabilities are brightly imagined, as are her strengths, including that unique capability for compassion that made her so magnetic. But this version of Hickok also sees the imperious side of Eleanor. "It was like having the Statue of Liberty watch you have one beer too many ... When I wasn't the victim, I loved it." Bloom creates an Eleanor whose pretenses of

Hickok (left) frequently joined Eleanor on her travels, as seen here with U.S. Virgin Islands Governor Paul Martin Pearson in 1934

^
BLASTS FROM THE PAST

Bloom has made a specialty of historical fiction; *Away* involves an immigrant arriving at Ellis Island in 1924, and *Lucky Us* spans the 1940s.

simplicity—old clothes, rationed food, uncomfortable furniture—signal self-righteousness. For the Hickok character, who in real life grew up in poverty, watching a wealthy woman behave this way produces complicated feelings. But it's part of their dynamic: "I loved being the brave and battered little dinghy," Hickok says, looking back on the affair. "She loved being the lighthouse."

White Houses (which refers to both 1600 Pennsylvania Avenue and Hickok's Long Island cottage) is an unconventional love story. It lacks a happily-ever-after—Bloom does not allow her Hickok and Eleanor to have the public partnership that history denied them—and it centers on a romance between not only two women, but middle-aged ones who are "not conventional beauties," as Hickok puts it. Yet they feel beautiful when they are together. This makes it all the more painful when the relationship goes on hiatus late in FDR's presidency. "All fires go out," Hickok says, explaining her lingering feelings to Franklin. "It doesn't mean that we don't still want to sit by the fireplace, I guess." In *White Houses*, Bloom has built up exactly the sort of blaze that will draw readers to linger. □



Ein Berlin, remembering the Wall, and my own past

By Susanna Schröbsdorff

THE FIRST TIME I LEFT BERLIN I WAS A VERY SMALL GERMAN person with an American mother, a German father and a very odd accent in English. I sounded like I'd been raised by 19th century nuns, or Jackie Kennedy. (This is what happens when you learn a language in a vacuum.)

After a year of American kindergarten, I didn't remember much about Germany except for the pink marzipan piglets they sold in pastry shops and my babysitter Gerde. She was a capacious woman whom you could hide behind or burrow into. Gerde spoiled me, and I adored her. She spoke in Berliner slang, and her cheek was pitted with bits of glass from the war. Some of her family ended up on the east side of the Wall. The division was random that way.

When I returned to Berlin two decades later, East German guards were sitting in the sunshine at folding tables, laconically checking passports near what was left of the Wall. My sister and I were not long out of college, but the soldiers looked even younger. I gave one guy what was probably the equivalent of his monthly salary for a gray military cap with the National People's Army emblem of a gold hammer and compass. I don't know if the hat meant something to him, but later I was ashamed to have bought his history like a trinket.

We didn't see Gerde and her daughters on that trip. I don't remember now why we didn't try to find her. We were probably too busy rooting around in the stark cafés and bars of the East, which, like all remnants of the Soviet empire, were fascinating to Americans. (West Berliners weren't quite so enchanted.)

EARLIER THIS MONTH I finally made it back for a visit and the cab driver told me it was "Circle Day," or Kreistag. The Wall had been down for as long as it had divided Berliners: 10,316 days. The city had come around to itself. Berlin wears its history like a quilt, with art and tragedy stitched together. Cobblestones trace the Wall's path across the belly of the city past the Memorial to the Murdered Jews of Europe. The thousands of cherry trees Japan sent to commemorate reunification have grown thick and tall. Glossy buildings sit next to ones pockmarked with bullet holes. And backyard gardens still give up shrapnel and other bits of the past century.

Gerde is gone now, but a while back, her daughters found us on Facebook. We exchange enthusiastic emojis on holidays and birthdays. Her eldest, Monika, met me at my hotel with her own daughter, Michaela. Because my German has dwindled to an embarrassing collection of simple nouns and un-conjugated verbs, Michaela pulled up lists of idioms on her phone to help me understand Monika. She read triumphantly from her screen: "My mother says her English is under all pig!" After



we stopped giggling at the sound of it in English, she explained that *under all pig* means *it's the worst*.

WE FELL INTO a German idiom Internet hole from there. So. Many. Animals. Mostly pigs. Being under all pig is not good, but to have pig (*Schwein haben*) means you're lucky, which is awfully confusing. And if you don't know someone well, you can say, "We haven't kept pigs together yet." My favorite phrase is meta-porcine: "*Warum spielst du die beleidigte Leberwurst?*" Literally, "Why are you playing the insulted liver sausage?", but idiomatically, *Why are you throwing such a tantrum?* So useful, what with all those insulted sausages on Twitter these days.

I asked how things have been since the Wall came down. *Nicht gut*, they said, shaking their heads. East Germans just get checks from the government, they groused. Some *Osties*, like Gerde's brother, still defend the socialist regime, so they don't see him anymore. The Wall may be gone, but there's still what Germans call a "*Mauer im Kopf*," a Wall in the mind. Most recently, Chancellor Angela Merkel welcomed a million refugees who require support. "They don't have the same values we do. They commit crimes!" Monika lamented. "But isn't Michaela's partner a Turkish immigrant and a Muslim? How is he different from the Syrians?" I instantly regretted asking this. But Monika didn't see a contradiction: "He's been in the country for years! He speaks German. He's family."

Different country, same debates. Clearly, the whole world is under all pig these days. So let's talk about dogs! I showed them photos of my puppy, and we discussed Berlin's many parks and their suitability for large poodles. They gave me a huge bag of chocolate Smarties, the kind I loved when I was 4. I got teary and promised to come back, because I always do. Then it was time to saddle up the chickens and go home. □

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Chris Hughes

The Facebook co-founder, Obama campaign digital strategist and former owner of the *New Republic* on his new book and a Zuckerberg presidency

In *Fair Shot*, you propose that we give every working adult whose family makes less than \$50,000 an extra \$500 a month, paid for by taxing the richest 1%. Will other rich people get on board? Over the long term, the most powerful thing to spur economic growth is to increase consumer spending. If you give \$100 to somebody struggling to make ends meet, they'll spend it on housing, health care, education, whatever they need. If you give \$100 to a wealthy person—and I am part of that 1%—the vast majority of it is going to the bank and not the productive economy. If working people have more money to spend, the economy grows faster.

Why should the superrich be limited in their ability to choose what to do with their money? By no means do I think they should. The issue I'm trying to highlight is that we live in a winner-take-all economy where everybody's working hard, but only a small select few are getting lucky. This is not about pitchforks coming for the rich.

What was the last guilty pleasure you bought? A cup of Starbucks coffee this morning. Despite all the changes in my life, I'm still cheap about a lot of things.

Has the Internet injured how we read and think? That was going on for a long time even before the Internet. Look at cable news. I could imagine some people making that claim with color printing for daily papers. It feels like this is a perennial concern, and I think it is real and I share it. I hesitate to say that the Internet is the culprit.

Do you think Facebook's plans to prioritize posts from family and friends will be enough to stop disinformation? I honestly don't know. When Mark [Zuckerberg] talked about the difference between a meaningful experience and an entertaining one—that is very consistent with what he talked about a decade ago, publicly and privately around News Feed. So I'm

heartened that it seems like that's the direction the company moves in. But I don't think there's a magic answer for how to ensure civil discourse happens on Facebook. I'm hopeful they'll figure it out. But I think we're all waiting to see.

You left Facebook in 2007. Do you recall early examples of people using the site to misrepresent who they are?

In 2004, 2005, a lot of the differentiating power Facebook had was that people came there to be their real selves. Folks went to other websites—like MySpace and Friendster—oftentimes to invent new identities. But in the early days of Facebook, you literally had to sign up with a college email address, which authenticated that you were a member of that community, and you only had one account. The culture was very much about authenticity. Today it's a very different network. They've got all kinds of problems with bots and impersonation.

Would Zuckerberg make a good President? Well, I don't think that is something that he is so interested in. We have a businessman taking the helm of the government, and it turns out that a lot of the experience that you need to be in that seat comes from being in the public sector and civil society.

When you were the owner of the *New Republic*, you worked closely with literary editor Leon Wieseltier, who recently admitted to sexual harassment. You handled a 2014 complaint against him, but did not fire him. Do you wish you'd acted differently?

He would not have been on staff if those claims had been surfaced to me at any point along the way.

Your husband ran for office.

***Fair Shot* is a policy proposal.**

Would you ever run? No, there's no interest from me. I prefer to be on the sidelines. —NATE HOPPER

The culture was very much about authenticity. Today [Facebook is] a very different network. They've got all kinds of problems with bots and impersonation.



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